

MIS 5208 Mid-Term Exam

Posted: March 5, 2017 at 2300 (11:00 PM)

Due: Sunday March 12, 2017 at 23:59 (11:59 PM)

SUBMISSION REQUIREMENTS:

1. One (1) Microsoft **Word** document with your name and date, page number and title on the first page and in the header of every subsequent page
2. All question responses, tables, graphs, and programming code are to be embedded in the Word document. Please use tables where appropriate.
3. Prepare the exam individually. This is not a team exercise.
4. You may use lecture notes and other class materials such as reference manuals and tutorials. However, you may not ask another person for assistance.
5. **Submit a Word Document Version of the exam to Blackboard by the due date.**
6. **NO LATE EXAMS ACCEPTED unless arranged with the instructor.**

Section 1: Definition of Fraud / Fraud Analysis Coderre Chapters and Lecture Notes

1. True or false, is **ALL** theft fraud?
 - a. True
 - b. False
2. True or false, are **ALL** deceptive statements examples of fraud?
 - a. True
 - b. False
3. Define the fraud triangle. Use one or two sentences to describe each element of the triangle.
 - a. Opportunity – The access and ability to commit and cover-up a fraud through weak controls and/or being in a position of trust.
 - b. Pressure – Could be of financial nature such as debt or lifestyle, but can also be unrealistic business goals such as sales targets.
 - c. Rationalization – The person may feel they work hard and deserve the extra benefits they are giving themselves. They may also feel what they are doing is not criminal, especially if they intended to pay it back.
4. Data Analysis is a method for identifying the fraud. What are the three steps involved to use data for fraud identification? List these.
 - a. Identify the objectives of the investigation.
 - b. Meet with the data owner and programmer
 - c. Define the parameters for the required data
5. What assumption can auditors make when searching for sources of information. Select all that are correct.
 - a. The information exists in an electronic form
 - b. The information exists and is accessible
 - c. The systems have information owners and permission is available to access the data
 - d. There is good documentation on the data and the way the system structures the data
 - e. The system owner is probably involved in the fraud in some way
 - f. The information is not tainted and is forensically sound
 - g. The data is clean and will be easily analyzed

6. What are the three (3) things auditors must be careful to avoid.
 - a. Improperly extracting the source data. (Care is required when extracting information from systems. Fields can be lost, decimal places shifted, or data corrupted.)
 - b. Misinterpreting the data. (Even if the data is correct, it can be misread. For example, a file containing both debits and credits may be read as debits only. Auditors also can falsely assume that a field marked "location" in the personnel file will consistently designate an employee's physical location or that there are no additional employees at the same location who are not so coded.)
 - c. Forgetting to consider real-life issues. (Even with uncorrupted data that is correctly understood, practical factors can make a huge difference to one's conclusions. Consider a data entry section whose increased error rate at the new facility was caused by the afternoon sun's glare and a case of color blindness among the operators.)
7. Which of the following are examples of fraud?
 - a. Improper transfer pricing between related entities
 - b. Stealing money, property or falsifying financial records to cover up a theft
 - c. Paying an invoice without checking the invoice is accurate
 - d. Conducting business activities that violate government statutes, rules, regulations, or contracts
 - e. Writing a check knowing that there are not enough funds in the account to cover the payment
 - f. Misrepresenting the financial status of an organization to outside parties by intentionally failing to disclose significant information
 - g. Writing a check for a bill without knowing the amount of funds available
 - h. All the above (a, b, c, d, e, f, and g)
8. On average, how much revenue does the average organization lose to fraud each year?
 - a. 5%
 - b. 8%
 - c. 12%
 - d. 15%
 - e. None of the above
9. In an organization who is most likely to commit a fraud?
 - a. Male
 - b. Female
10. In ACL what does a filter do? (Choose the one (1) correct/best answer.)
 - a. Screens out harmful radiation from your computer screen
 - b. Identifies only those records meeting user defined criteria
 - c. Reduces the amount of inaccurate data in an ACL data file
 - d. All the above.
11. According to the Association of Certified Fraud Examiners 2014 report, which department of the following originates the most frauds?
 - a. Accounting
 - b. Customer Service
 - c. Executive / Upper Management
 - d. Finance
 - e. Operations
 - f. Sales
12. Define the three (3) steps to money laundering. Use one or two sentences to describe each step.
 - a. Placement: Physical introduction of bulk cash into the financial system – cash deposits, and cash equivalent purchases – currency smuggling.

- b. Layering: Separating the proceeds of criminal activity for their source through complex layers of transactions – using more than one financial institution obscuring the audit trail.
- c. Integration: Placing the laundered funds back into the economy – entering as apparently legitimate funds. Accomplished through real-estate purchases, shell companies, and securities investments.

13. What are the six (6) risk factors for fraud?

- a. Attractive assets
- b. Competitive and Business environment
- c. Employee relationships
- d. Internal controls
- e. Lack of separation of duties
- f. Management environment

14. In one or two sentences, describe the Control Weakness approach to fraud detection.

The control weaknesses approach looks at the potential for fraud by examining the key controls, determining who could take advantage of a control weakness, and how they could manipulate a control that may not be working properly.

15. In one or two sentences, describe the Key Field Approach to fraud detection.

The Key Field Approach focuses on data entry and what data can be changed or altered in some form. The impact of the change is also examined in this approach.

16. What are some of the problems with Data Sampling for fraud detection?

- Data sampling may miss incriminating evidence if the data set being analyzed does not include all transactions. The sample data may appear to be accurate and follow proper standards but it does not mean all of the data is accurate and follow proper standards.
- Auditors could find a few data points in the sample data set which appear incriminating but are not indicative of fraud AFTER a deep analysis of the data. These points might not be scrutinized if the entire data was analyzed.

17. In ACL what is summarization? What function does it provide?

Summarization is a way to help identify patterns, trends, irregularities, and outliers. Summarizing allows for grouping and counting of rows for each unique value in a column. Subtotals of numeric columns can be done through summarization.

18. In ACL what does the count function do?

The Count function is used to count the total number of records in the current view, or only those records that meet the specified test conditions. Count can also be used to total the number of records in a specific view where a filter has been applied.

19. Benford Analysis

- a. What is Benford Analysis?

Benford's Law is an observation of the frequency distribution of leading digits in a numerical data set. That law expects 30.1% of numbers in a list of financial transactions to begin with '1'. Each successive digit should represent a progressively smaller proportion.

b. How is Benford analysis used to detect fraud?

The Benford Law Curve is used in comparison with graphical representations of a data set to detect any abnormalities. This analysis looks for the accuracy of the data which is helpful in detecting fraud. An example of where Benford Analysis can be applied is the analysis of check payment amounts.

c. List the Benford Distribution of values

1	30.1%
2	17.6%
3	12.5%
4	9.7%
5	7.9%
6	6.7%
7	5.8%
8	5.1%
9	4.6%

Section 2: ACL Audit Planning

Up until now you have worked with data that is largely uniform and easy to manipulate. We call this “clean data. In this exam, you will be asked to work with data that will need some cleanup. In this case, we will use data sent via email prior to issuing the exam and available for download from the MIS5208 web site.

20. Develop an investigation plan for the exercise in Section 3 of this exam. Complete the table below.

ACL Analysis Plan	
Describe the information you need and have	<p>There are four Excel spreadsheet files which include Employee Master, Expense Master, Acceptable transaction codes and unacceptable codes and their respective descriptions.</p> <p>The EmployeeMaster includes employee ID, home address, city, state, postal code, email addresses, and phone numbers, employee tax ID, and employee role.</p> <p>The ExpenseMaster includes expense amounts, dates of transactions, and the transaction codes associated to each transaction.</p> <p>The AcceptableTransactions includes a list of all acceptable expense codes and their descriptions.</p> <p>The UnacceptableTransactions includes a list of unacceptable expense codes and their descriptions.</p>
Describe the location of the information (e.g. local file system, USB drive, etc.)	<p>This information will be received from the Accounting Department of the organization being audited. Information will be extracted from the local file system of the PC’s where all of the data resides and can be transmitted through USB drives or secure email servers.</p>
Describe any related projects (hint: labs performed in this class)	<p>A related analysis was done for Acceptable and Unacceptable transactions for the months of April and May. During this analysis, Unacceptable transactions were identified and the employees who</p>

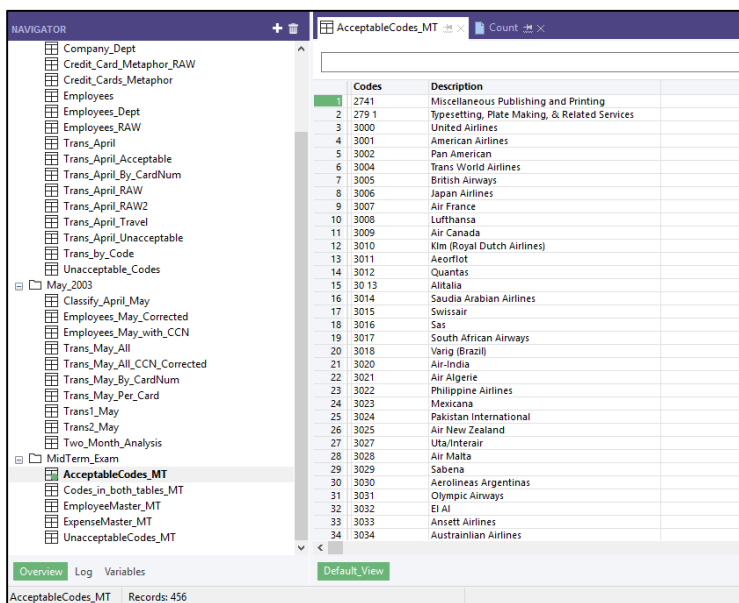
	were involved in initiating and producing these transactions.
List the table names you will import and create and their associated data files	Acceptable_Codes (MT).xlsx Unacceptable_Codes (MT).xlsx EmployeeMaster (MT).xlsx ExpenseMaster (MT).xlsx
Briefly describe the process you will take to analyze the files	Analyze all four data files and eliminate any discrepancies in data structure and type (Data cleansing) ensuring there are no verification errors. Relate the EmployeeMaster table with the ExpenseMaster table to identify which employees were involved with each individual transaction. Relates the AcceptableCodes and UnacceptableCodes tables to the ExpenseMaster table to determine the transactions that are acceptable and unacceptable. We will perform a variety of analysis techniques to determine the presence of fraud including a Benford distribution analysis.
List the location of the output files (e.g. local disk, USB, etc.)	Output files will be stored on local file storage of the examiner’s PC.

Section 3: ACL - Working with Data

Use the sample data files sent via email or available for download from the Mid-Term Exam page on the MIS5208 Spring 2017 web page.

Perform the following tasks and answer the following questions:

- 21. Exam Step 1 – Import the four data sources:
 - a. AcceptableCodes



456 Records

b. EmployeeMaster

Employee_ID	Employee_Last_Name	Employee_First_Name	Employee_Middle_Initial	Employee_Address	City	State	Post_Code	Phone_Number	TAX_ID	Employee_Role
1	Abihalchi	Mustafa		33 Redundant Drive	Spokane	Washington	99004	555120456	121990001	Mgr
2	Bedi	Sukhinder		123 WalkAboutCreek Road	Alberdeen	Washington	99008	555120457	121990010	Exec
3	Bianco	Andrea		12345 Beemill Parkway	Blairng	Washington	99072	555120458	121990019	Emp
4	Centi	Leandro	H.	55 West Duquesne Street	Battle	Washington	99076	555120459	121990028	Emp
5	Giana	Jeta	X.	465 Bunker Hill Road	Bay	Washington	99000	555120460	121990037	Exec
6	Guaralia	Gladys		900 Box 112 UPS Store Road	Bever	Washington	99004	555120461	121990046	Mgr
7	Lanter	David		900 Boneward Palace	Bellar	Washington	99088	555120462	121990055	Emp
8	Tu	Wentiang		5500 Hewlett Expressway	Bellevue	Washington	99002	555120463	121990064	Mgr
9	Maga	Michael		123 Bunting Court	Bellingham	Washington	99096	555120464	121990073	Emp
10	Moggin	Kevin	J.	456 Holloween Drive	Belmont	Washington	99000	555120465	121990082	Emp
11	Nguyen	Hai		346 Westport Road	Bempe	Washington	99004	555120466	121990091	Mgr
12	Nguyen	Nicholas	T.	123 Laptop Drive	Benton	Washington	99008	555120467	121990100	Emp
13	O'Rourke	Timothy	C.	789 Church Street	Beverly	Massachusetts	01912	555120468	121990109	Emp
14	O'Caro	Lucia	F.	665 Lafayette Street	Burlington	Vermont	05416	555120469	121990118	Emp
15	Paghano	Paul	S.	100 North Broad Street	Burgan	Pennsylvania	19120	555120470	121990127	Exec
16	Patel	Dhegan	L.	1565 Diamond Street	Blak	Pennsylvania	19124	555120471	121990136	Emp
17	Patel	Jeevanumar	T.	355 Dullington Way	Blaine	Pennsylvania	19128	555120472	121990145	Emp
18	Patel	Rinal	I.	5676 Book Store Drive	Blakely	Pennsylvania	19132	555120473	121990154	Mgr
19	Patel	Ritika	H.	122 Pullet Walk	Philadelphia	Pennsylvania	19136	555120474	121990163	Exec
20	Ou	Jim		55 Walnut Street	Bothell	Pennsylvania	19140	555120475	121990172	Mgr
21	Rams	Rager		456 Chestnut Street	Bow	Pennsylvania	19144	555120476	121990181	Emp
22	Rohitets	Brandon		200 College Avenue	Boys	Pennsylvania	19148	555120477	121990190	Exec
23	Roth	Michael	A.	463 West Chestnut Street	Bremerton	Pennsylvania	19152	555120478	121990199	Exec
24	Samiel	Jim		501 Lemon Street	Brewster	Pennsylvania	19156	555120479	121990208	Mgr
25	Sana	Pavel		400 South Church	Bridgeton	Pennsylvania	19160	555120480	121990217	Exec
26	Strawder	Eboni	A.	600 North Church	Brimmon	Pennsylvania	19164	555120481	121990226	Exec
27	Thomas	Paul	O.	700 East Lanning Court	Brownstown	Pennsylvania	19168	555120482	121990235	Mgr
28	Wess	Corey	R.	3078 Sigphreds Blvd.	Seattle	Washington	19172	555120483	121990244	Emp
29	Xu	Dongmei		309 West Lakeside Drive	Pittsburgh	Pennsylvania	19176	555120484	121990253	Mgr
30	Zhou	Jings		130 Park Avenue South	New York	New York	19180	555120485	121990262	Exec
31	Zhu	Zwei		460 Minto Cuomo Circle	Albany	New York	19184	555120486	121990271	Mgr

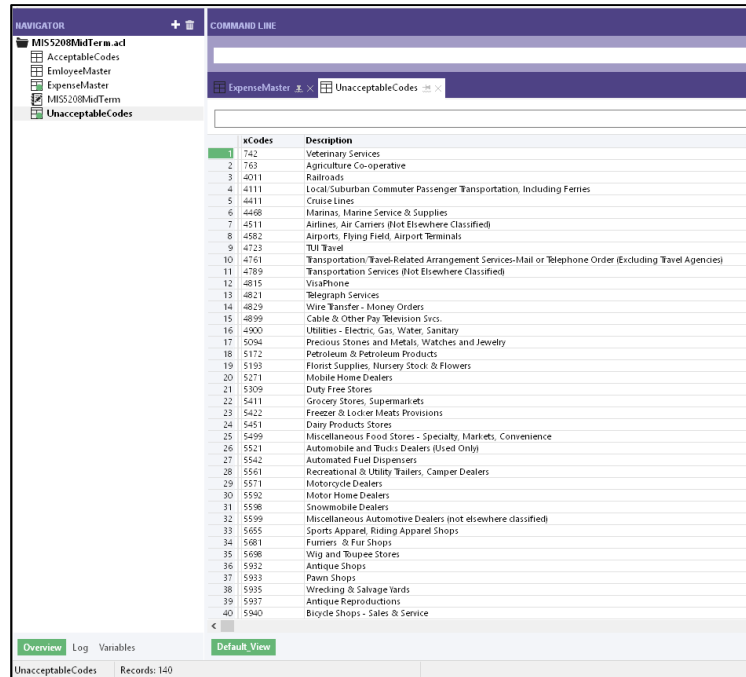
31 Records

c. ExpenseMaster

Transaction_Number	Employee_Number	Expense_Date	Expense_Amount	xCodes	Employee_Last_Name	Employee_First_Name
1	1	1/12/2013	30.44	2741	Bedi	Sukhinder
2	2	1/01/2014	294.83	2791	Bedi	Sukhinder
3	3	1/01/02/2014	53.65	3000	Bedi	Sukhinder
4	4	1/01/03/2014	62.96	3001	Bedi	Sukhinder
5	5	1/01/04/2014	368.30	3002	Bedi	Sukhinder
6	6	1/01/04/2014	62.13	3004	Bedi	Sukhinder
7	7	1/01/05/2014	270.91	3005	Bedi	Sukhinder
8	8	1/01/06/2014	670.36	3006	Bedi	Sukhinder
9	9	1/01/06/2014	45.75	3007	Bedi	Sukhinder
10	10	1/01/07/2014	423.64	3008	Bedi	Sukhinder
11	11	1/01/07/2014	5533.77	3009	Bedi	Sukhinder
12	12	1/01/09/2014	10.34	3010	Bedi	Sukhinder
13	13	1/01/10/2014	593.88	3011	Bedi	Sukhinder
14	14	1/01/11/2014	14.32	3012	Bedi	Sukhinder
15	15	1/01/13/2014	836.54	3013	Bedi	Sukhinder
16	16	1/01/13/2014	2050.69	3014	Bedi	Sukhinder
17	17	1/01/14/2014	859.23	3015	Bedi	Sukhinder
18	18	1/01/14/2014	1139.44	3016	Bedi	Sukhinder
19	19	1/01/14/2014	1290.40	3017	Bedi	Sukhinder
20	20	1/01/14/2014	135.57	3018	Bedi	Sukhinder
21	21	1/01/19/2014	30.53	3020	Bedi	Sukhinder
22	22	1/01/21/2014	12.88	3021	Bedi	Sukhinder
23	23	1/01/22/2014	3259.23	3022	Bedi	Sukhinder
24	24	1/01/22/2014	53.60	3023	Bedi	Sukhinder
25	25	1/01/23/2014	51.88	3024	Bedi	Sukhinder
26	26	1/01/24/2014	235.97	3025	Bedi	Sukhinder
27	27	1/01/24/2014	228.45	3027	Bedi	Sukhinder
28	28	1/01/24/2014	11.33	3028	Bedi	Sukhinder
29	29	1/01/25/2014	852.07	3029	Bedi	Sukhinder
30	30	1/01/25/2014	49.56	3030	Bedi	Sukhinder
31	31	1/01/25/2014	31.80	3031	Bedi	Sukhinder
32	32	1/01/26/2014	28.30	3032	Bedi	Sukhinder
33	33	1/01/26/2014	92.90	3033	Bedi	Sukhinder
34	34	1/01/27/2014	351.37	0742	Bedi	Sukhinder
35	35	1/01/28/2014	7.04	0763	Bedi	Sukhinder
36	36	1/01/30/2014	2694.17	4011	Bedi	Sukhinder
37	37	1/01/31/2014	36.65	4111	Bedi	Sukhinder
38	38	1/02/01/2014	1626.31	4411	Bedi	Sukhinder
39	39	1/02/02/2014	2375.79	4468	Bedi	Sukhinder
40	40	1/02/04/2014	7.37	4511	Bedi	Sukhinder

7215 Records

d. UnacceptableCodes



140 Records

22. Exam Step 2 – Correct any issues with the data in the four tables.

- a. Submit the results of the verification and any changes you make to clean up the data.

AcceptableCodes.xlsx

Created Computed Field called “xCodes” to replace the Codes field

Expression: SUBSTR(ALLTRIM(OMIT(Codes, " ")), 1, 4)

UnAcceptableCodes.xlsx

Created Computed Field called “xCodes” to replace the Codes field

Expression: SUBSTR(ALLTRIM(OMIT(Codes, " ")), 1, 4)

- b. Compare the layout of all tables. Show the column names and data types for each table. **Submit the results.**

AcceptableCodes

As of: 04/08/2017 03:01:07
 Command: [display](#)

File
 'AcceptableCodes.fil' (format 'AcceptableCodes') is your PRIMARY file.
 The record length is 120

Fields

Name	Type	Start	Length	Decimals	Field explanation
Codes	UNICODE	1	20		
Description	UNICODE	21	100		
xCodes	COMPUTED				
<i>substr(include(Codes, "1,2,3,4,5,6,7,8,9,0"),1,4)</i>					

Name	Title	Start	Category	Length	Decimals	Type	If test	Static	Note	Default	Multivalue
Codes	Codes	1	C	20	0	UNICODE					
Description	Description	21	C	100	0	UNICODE					
xCodes	xCodes	0	C	8	0	COMPUTED				substr(include(Codes,"1,2,3,4,5,6,7,8,9,0"),1,4)	N

EmployeeMaster

As of: 04/08/2017 03:02:40
 Command: [display](#)

Relationship
 'ExpenseMaster' related by 'Employee_ID' using index 'ExpenseMaster_on_Employee__Number'

File
 'EmployeeMaster.fil' (format 'EmployeeMaster') is your PRIMARY file.
 The record length is 240

Fields

Name	Type	Start	Length	Decimals	Field explanation
Employee_ID	PRINT	1	4	0	
Employee_Last_Name	UNICODE	5	18		
Employee_First_Name	UNICODE	23	20		
Employee_Middle_initial	UNICODE	43	4		
Employee_Address	UNICODE	47	50		
City	UNICODE	97	24		
State	UNICODE	121	26		
Post_Code	UNICODE	147	10		
Employee_e_mail	UNICODE	157	38		
Phone_Number	UNICODE	195	20		
TAX_ID	UNICODE	215	18		
Employee_Role	UNICODE	233	8		

Name	Title	Start	Category	Length	Decimals	Type	If test	Static	Note	Default
Employee_ID	Employee_ID	1	N	4	0	PRINT				
Employee_Last_Name	Employee_Last_Name	5	C	18	0	UNICODE				
Employee_First_Name	Employee_First_Name	23	C	20	0	UNICODE				
Employee_Middle_initial	Employee_Middle_initial	43	C	4	0	UNICODE				
Employee_Address	Employee_Address	47	C	50	0	UNICODE				
City	City	97	C	24	0	UNICODE				
State	State	121	C	26	0	UNICODE				
Post_Code	Post_Code	147	C	10	0	UNICODE				

Employee_e_mail	Employee_e_mail	157	C	38	0	UNICODE				
Phone_Number	Phone_Number	195	C	20	0	UNICODE				
TAX_ID	TAX_ID	215	C	18	0	UNICODE				
Employee_Role	Employee_Role	233	C	8	0	UNICODE				

ExpenseMaster

As of: 04/08/2017 03:03:57
 Command: [display](#)

Relationship
 'AcceptableCodes' related by 'xCodes' using index 'AcceptableCodes_on_xCodes'

Relationship
 'EmployeeMaster' related by 'Employee__Number' using index 'EmployeeMaster_on_Employee_ID'

Relationship
 'UnacceptableCodes' related by 'xCodes' using index 'UnacceptableCodes_on_xCodes'

File
 'ExpenseMaster.fil' (format 'ExpenseMaster') is your PRIMARY file.
 The record length is 78

Fields

Name	Type	Start	Length	Decimals	Field explanation
Transaction_Number	PRINT	1	8	0	
Employee__Number	PRINT	9	4	0	
Expense_Date	DATETIME	13	38		PICTURE "YYYY-MM-DD"
Expense_Amount	PRINT	51	18	2	
Transaction_Code	UNICODE	69	10		
xCodes	COMPUTED				

substr(include(Transaction_Code,"1,2,3,4,5,6,7,8,9,0"),1,4)

Name	Title	Start	Category	Length	Decimals	Type	If test	Static	Note	Default
Transaction_Number	Transaction_Number	1	N	8	0	PRINT				
Employee__Number	Employee__Number	9	N	4	0	PRINT				
Expense_Date	Expense_Date	13	D	38	0	DATETIME				
Expense_Amount	Expense_Amount	51	N	18	2	PRINT				
Transaction_Code	Transaction_Code	69	C	10	0	UNICODE				
xCodes	xCodes	0	C	8	0	COMPUTED				substr(include(Transaction_Code,"1,2,3,4,5,6,7,8,9...

UnacceptableCodes

As of: 04/08/2017 03:05:10
Command: [display](#)

File
 'UnacceptableCodes.fil' (format 'UnacceptableCodes') is your PRIMARY file.
 The record length is 230

Fields

Name	Type	Start	Length	Decimals	Field explanation
Codes	UNICODE	1	24		
Description	UNICODE	25	206		
xCodes	COMPUTED				

substr(trim(include(Codes, "0123456789")), 1, 4)

Name	Title	Start	Category	Length	Decimals	Type	If test	Stabc	Note	Default
Codes	Codes	1	C	24	0	UNICODE				
Description	Description	25	C	206	0	UNICODE				
xCodes	xCodes	0	C	8	0	COMPUTED				substr(include(Codes, "1023456789"), 1, 4)

c. Verify all tables. **Submit the results.**

Acceptable Codes

As of: 04/07/2017 22:16:31
Command: [VERIFY FIELDS Codes Description xCodes ERRORLIMIT 10 TO SCREEN](#)
Table: AcceptableCodes

0 data validity errors detected

EmployeeMaster

As of: 04/07/2017 22:21:55
 Command: [VERIFY FIELDS Employee_ID Employee_Last_Name Employee_First_Name Employee_Middle_initial Employee_Address_City State Post_Code Employee_e_mail Phone_Number TAX_ID Employee_Role ERRORLIMIT 10 TO SCREEN](#)
 Table: EmployeeMaster
 0 data validity errors detected

ExpenseMaster

The Verify dialog box for the ExpenseMaster table shows the following field verification results:

	Name	Title	Start
1	Transaction_Number	Transaction_Number	1
2	Employee_Number	Employee_Number	9
3	Expense_Date	Expense_Date	13
4	Expense_Amount	Expense_Amount	51
5	Transaction_Code	Transaction_Code	69
6	xCodes	xCodes	0

As of: 04/07/2017 22:25:38
 Command: [VERIFY FIELDS Transaction_Number Employee_Number Expense_Date Expense_Amount Transaction_Code xCodes ERRORLIMIT 10 TO SCREEN](#)
 Table: ExpenseMaster
 0 data validity errors detected

UnacceptableCodes

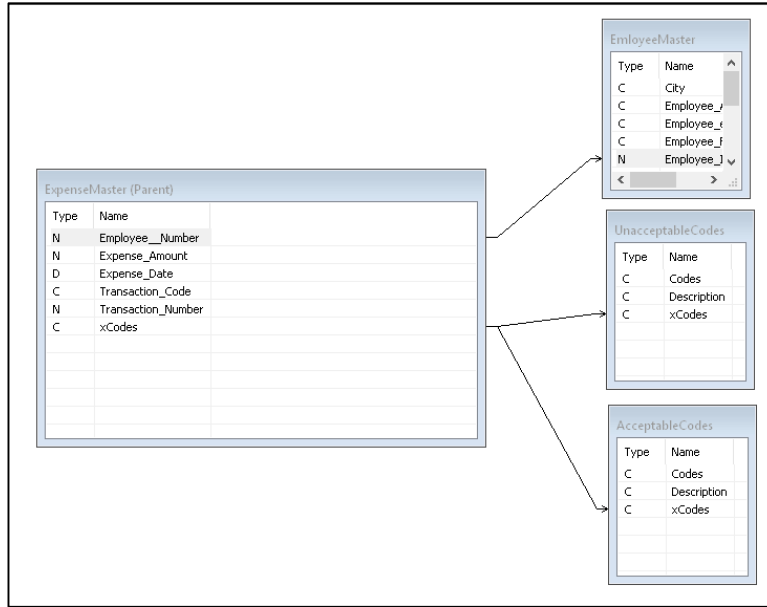
The Verify dialog box for the UnacceptableCodes table shows the following field verification results:

	Name	Title	Start
1	Codes	Codes	1
2	Description	Description	25
3	xCodes	xCodes	0

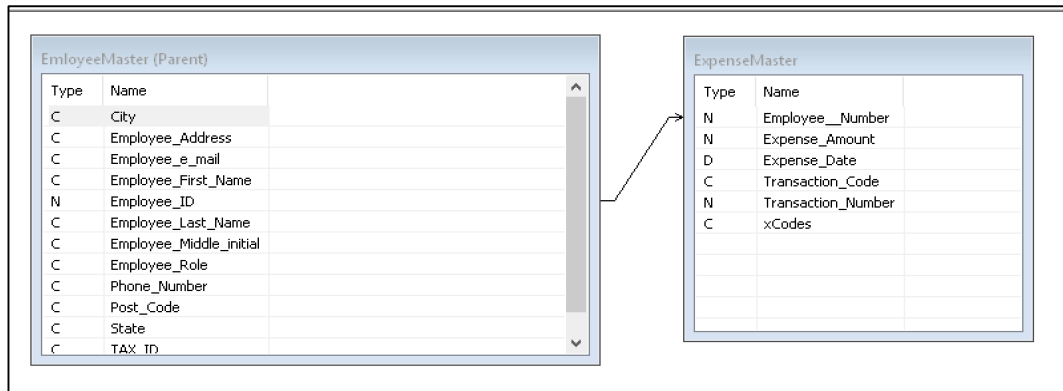
As of: 04/07/2017 22:28:38
 Command: [VERIFY FIELDS Codes Description xCodes ERRORLIMIT 10 TO SCREEN](#)
 Table: UnacceptableCodes
 0 data validity errors detected

- d. Join the two tables EmployeeMaster, ExpenseMaster, AcceptableCodes, UnacceptableCodes with any of the following methods:
- i. Join
 - ii. Relations
 - iii. Extract

ExpenseMaster (ExpenseMaster -> AcceptableCodes, Employee Master, UnacceptableCodes)



EmployeeMaster (EmployeeMaster -> ExpenseMaster)



- e. Run the **profile command** on the ExpenseMaster table on the most appropriate column. **Submit the results.**

As of: 04/07/2017 22:52:54
 Command: [PROFILE FIELDS Expense_Amount](#)
 Table: ExpenseMaster

Field Name	Total Value	Absolute Value	Minimum	Maximum
Expense_Amount	4,924,742.93	4,924,742.93	0.00	4,886.00

- f. **Print a report** with the employee's first and last name showing of a summary their expenses. Submit the results.

As of: 04/07/2017 23:09:21
 Command: [SUMMARIZE ON EmployeeMaster.Employee_Last_Name SUBTOTAL Expense_Amount TO SCREEN PRESORT ISOLOCALE root](#)
 Table: ExpenseMaster

Employee_Last_Name	Expense_Amount	Count
Alshakchi	159,248.69	252
Bedi	165,795.15	246
Blanco	161,850.22	232
Cinti	149,896.63	241
Giana	168,479.84	259
Guardia	133,201.34	228
Lanter	130,153.53	234
Lu	168,643.34	236
Majzik	159,420.69	233
McCainn	161,185.75	223
Nguyen	304,285.29	431
O'Rourke	168,927.54	253
Okaro	173,888.77	260
Paoliaro	186,219.90	255
Patel	620,814.09	917
Qu	168,851.98	258
Rams	148,260.93	233
Roberts	190,655.19	269
Roth	177,971.06	261
Samuel	191,068.81	252
Sasna	148,058.34	235
Strawder	169,631.10	227
Thomas	169,104.50	233
Weiss	184,844.19	247
Xu	164,901.27	238
Zhou	189,268.46	245
Zhu	10,116.33	17
Totals	4,924,742.93	7,215

27 records produced

23. Exam Step 4 – Analyze the Data Using ACL Filters

- a. Use a filter to show all transactions occurring **between** January 1, 2014 and March 15, 2014. Count the results.

BETWEEN (Expense_Date, '20140101', '20140315') or **Expense_Date >= '20140101' and Expense_Date <= '20140315'**

Transaction_Number	Employee_Number	Expense_Date	Expense_Amount	xCodes	Employee_First_Name	Employee_Last_Name	Acceptable	Unacceptable
5766	5766	25 01 16 2014	3875 7542	Ebona	Ebona	Strawder		7542
5767	5767	25 01 19 2014	3188 7549	Ebona	Ebona	Strawder		7549
5768	5768	25 01 19 2014	61 02 7641	Ebona	Ebona	Strawder		7641
5769	5769	25 01 21 2014	101839 7692	Ebona	Ebona	Strawder		7692
5770	5770	25 01 22 2014	3426 60 7699	Ebona	Ebona	Strawder		7699
5771	5771	25 01 23 2014	26 94 7829	Ebona	Ebona	Strawder		7829
5772	5772	25 01 26 2014	15 11 7832	Ebona	Ebona	Strawder		7832
5773	5773	25 01 27 2014	385 64 7833	Ebona	Ebona	Strawder		7833
5774	5774	25 01 28 2014	83 03 7841	Ebona	Ebona	Strawder		7841
5775	5775	25 01 29 2014	1173 36 7911	Ebona	Ebona	Strawder		7911
5776	5776	25 01 31 2014	2793 36 7932	Ebona	Ebona	Strawder		7932
5777	5777	25 01 31 2014	16 78 7993	Ebona	Ebona	Strawder		7993
5778	5778	25 01 31 2014	14 07 7994	Ebona	Ebona	Strawder		7994
5779	5779	25 02 01 2014	582 55 7995	Ebona	Ebona	Strawder		7995
5780	5780	25 02 04 2014	7 14 7996	Ebona	Ebona	Strawder		7996
5781	5781	25 02 02 2014	189 90 8011	Ebona	Ebona	Strawder		8011
5782	5782	25 02 11 2014	4 45 8021	Ebona	Ebona	Strawder		8021
5783	5783	25 02 12 2014	89 36 8031	Ebona	Ebona	Strawder		8031
5784	5784	25 02 16 2014	2571 35 8041	Ebona	Ebona	Strawder		8041
5785	5785	25 02 16 2014	69 96 8042	Ebona	Ebona	Strawder		8042
5786	5786	25 02 16 2014	46 65 8043	Ebona	Ebona	Strawder		8043
5787	5787	25 02 16 2014	5 85 8044	Ebona	Ebona	Strawder		8044
5788	5788	25 02 17 2014	1322 77 8049	Ebona	Ebona	Strawder		8049
5789	5789	25 02 18 2014	5 18 8050	Ebona	Ebona	Strawder		8050
5790	5790	25 02 19 2014	2485 31 8062	Ebona	Ebona	Strawder		8062
5791	5791	25 02 21 2014	841 33 8071	Ebona	Ebona	Strawder		8071
5792	5792	25 02 22 2014	17 15 8099	Ebona	Ebona	Strawder		8099
5793	5793	25 02 23 2014	120 65 8111	Ebona	Ebona	Strawder		8111
5794	5794	25 02 26 2014	455 57 8211	Ebona	Ebona	Strawder		8211
5795	5795	25 02 27 2014	1690 34 8241	Ebona	Ebona	Strawder		8241
5796	5796	25 03 04 2014	1493 51 8249	Ebona	Ebona	Strawder		8249
5797	5797	25 03 04 2014	921 26 8351	Ebona	Ebona	Strawder		8351
5798	5798	25 03 08 2014	2399 97 8398	Ebona	Ebona	Strawder		8398
5799	5799	25 03 09 2014	2429 54 8661	Ebona	Ebona	Strawder		8661
5800	5800	25 03 11 2014	2024 29 8661	Ebona	Ebona	Strawder		8661
5801	5801	25 03 12 2014	5 57 8675	Ebona	Ebona	Strawder		8675
5802	5802	25 03 12 2014	9 03 8911	Ebona	Ebona	Strawder		8911
5803	5803	25 03 13 2014	144 90 8999	Ebona	Ebona	Strawder		8999
5804	5804	25 03 13 2014	10 50 9211	Ebona	Ebona	Strawder		9211
5805	5805	25 03 14 2014	27 65 9222	Ebona	Ebona	Strawder		9222
5806	5806	25 03 15 2014	118 02 9223	Ebona	Ebona	Strawder		9223

1537 Records

Expense_Date > '20140101' and Expense_Date < '20140315'

Transaction_Number	Employee_Number	Expense_Date	Expense_Amount	xCodes	Employee_First_Name	Employee_Last_Name	Acceptable	Unacceptable
3	3	1 01 02 2014	53 65 3000	Sukhinder	Sukhinder	Bedi		3000
4	4	1 01 03 2014	622 96 3001	Sukhinder	Sukhinder	Bedi		3001
5	5	1 01 04 2014	398 30 3002	Sukhinder	Sukhinder	Bedi		3002
6	6	1 01 04 2014	62 13 3004	Sukhinder	Sukhinder	Bedi		3004
7	7	1 01 05 2014	270 91 3005	Sukhinder	Sukhinder	Bedi		3005
8	8	1 01 06 2014	670 88 3006	Sukhinder	Sukhinder	Bedi		3006
9	9	1 01 06 2014	45 75 3007	Sukhinder	Sukhinder	Bedi		3007
10	10	1 01 07 2014	423 64 3008	Sukhinder	Sukhinder	Bedi		3008
11	11	1 01 07 2014	193 37 3009	Sukhinder	Sukhinder	Bedi		3009
12	12	1 01 09 2014	10 34 3010	Sukhinder	Sukhinder	Bedi		3010
13	13	1 01 10 2014	593 68 3011	Sukhinder	Sukhinder	Bedi		3011
14	14	1 01 11 2014	14 22 3012	Sukhinder	Sukhinder	Bedi		3012
15	15	1 01 13 2014	836 54 3013	Sukhinder	Sukhinder	Bedi		3013
16	16	1 01 13 2014	2090 69 3014	Sukhinder	Sukhinder	Bedi		3014
17	17	1 01 14 2014	85 23 3015	Sukhinder	Sukhinder	Bedi		3015
18	18	1 01 14 2014	1139 44 3016	Sukhinder	Sukhinder	Bedi		3016
19	19	1 01 14 2014	1230 40 3017	Sukhinder	Sukhinder	Bedi		3017
20	20	1 01 14 2014	135 57 3018	Sukhinder	Sukhinder	Bedi		3018
21	21	1 01 19 2014	30 53 3020	Sukhinder	Sukhinder	Bedi		3020
22	22	1 01 21 2014	12 88 3021	Sukhinder	Sukhinder	Bedi		3021
23	23	1 01 22 2014	329 23 3022	Sukhinder	Sukhinder	Bedi		3022
24	24	1 01 22 2014	5 1 80 3023	Sukhinder	Sukhinder	Bedi		3023
25	25	1 01 23 2014	51 68 3024	Sukhinder	Sukhinder	Bedi		3024
26	26	1 01 24 2014	235 97 3025	Sukhinder	Sukhinder	Bedi		3025
27	27	1 01 24 2014	228 45 3027	Sukhinder	Sukhinder	Bedi		3027
28	28	1 01 24 2014	11 33 3028	Sukhinder	Sukhinder	Bedi		3028
29	29	1 01 25 2014	852 07 3029	Sukhinder	Sukhinder	Bedi		3029
30	30	1 01 25 2014	49 56 3030	Sukhinder	Sukhinder	Bedi		3030
31	31	1 01 25 2014	31 80 3031	Sukhinder	Sukhinder	Bedi		3031
32	32	1 01 26 2014	28 30 3032	Sukhinder	Sukhinder	Bedi		3032
33	33	1 01 26 2014	62 30 3033	Sukhinder	Sukhinder	Bedi		3033
34	34	1 01 27 2014	351 37 0742	Sukhinder	Sukhinder	Bedi		0742
35	35	1 01 28 2014	7 04 0763	Sukhinder	Sukhinder	Bedi		0763
36	36	1 01 30 2014	2694 17 4011	Sukhinder	Sukhinder	Bedi		4011
37	37	1 01 31 2014	36 65 4111	Sukhinder	Sukhinder	Bedi		4111
38	38	1 02 01 2014	1626 31 4411	Sukhinder	Sukhinder	Bedi		4411
39	39	1 02 02 2014	2375 79 4488	Sukhinder	Sukhinder	Bedi		4488
40	40	1 02 04 2014	7 37 4511	Sukhinder	Sukhinder	Bedi		4511
41	41	1 02 07 2014	18 46 4582	Sukhinder	Sukhinder	Bedi		4582
42	42	1 02 09 2014	309 20 4723	Sukhinder	Sukhinder	Bedi		4723
43	43	1 02 10 2014	28 38 4761	Sukhinder	Sukhinder	Bedi		4761

1477 Records

b. Use a filter to show all expenses greater than or equal to \$500.00. Count the results.

Expense_Amount >= 500.00

ExpenseMaster Expense_Amount <= 500.00

Transaction_Number	Employee_Number	Expense_Date	Expense_Amount	xCodes	Employee_First_Name	Employee_Last_Name
4	4	1.01.03.2014	622.96	3001	Sukhinder	I Bedi
8	8	1.01.06.2014	670.36	3006	Sukhinder	I Bedi
11	11	1.01.07.2014	1523.77	3009	Sukhinder	I Bedi
13	13	1.01.10.2014	593.68	3011	Sukhinder	I Bedi
15	15	1.01.13.2014	836.54	3013	Sukhinder	I Bedi
16	16	1.01.13.2014	2050.69	3014	Sukhinder	I Bedi
17	17	1.01.14.2014	859.23	3015	Sukhinder	I Bedi
18	18	1.01.14.2014	1139.44	3016	Sukhinder	I Bedi
19	19	1.01.14.2014	1230.40	3017	Sukhinder	I Bedi
23	23	1.01.22.2014	2259.23	3022	Sukhinder	I Bedi
29	29	1.01.25.2014	852.07	3029	Sukhinder	I Bedi
36	36	1.01.30.2014	2694.17	4011	Sukhinder	I Bedi
38	38	1.02.01.2014	1626.31	4411	Sukhinder	I Bedi
39	39	1.02.02.2014	2275.79	4408	Sukhinder	I Bedi
47	47	1.02.15.2014	1141.36	4829	Sukhinder	I Bedi
48	48	1.02.18.2014	1340.72	4899	Sukhinder	I Bedi
52	52	1.02.25.2014	3388.99	5193	Sukhinder	I Bedi
66	66	1.03.25.2014	3156.90	5655	Sukhinder	I Bedi
70	70	1.03.31.2014	1029.87	5933	Sukhinder	I Bedi
77	77	1.04.12.2014	2154.86	5960	Sukhinder	I Bedi
81	81	1.04.17.2014	981.48	5968	Sukhinder	I Bedi
84	84	1.04.18.2014	617.99	5993	Sukhinder	I Bedi
89	89	1.04.26.2014	1914.26	6012	Sukhinder	I Bedi
90	90	1.04.27.2014	1014.80	6051	Sukhinder	I Bedi
95	95	1.05.05.2014	1860.83	6611	Sukhinder	I Bedi
97	97	1.05.09.2014	2865.95	7011	Sukhinder	I Bedi
102	102	1.05.16.2014	802.98	7211	Sukhinder	I Bedi
104	104	1.05.18.2014	655.63	7251	Sukhinder	I Bedi
105	105	1.05.18.2014	744.78	7261	Sukhinder	I Bedi
106	106	1.05.18.2014	2056.42	7273	Sukhinder	I Bedi
109	109	1.05.22.2014	846.82	7280	Sukhinder	I Bedi
118	118	1.06.07.2014	1292.90	7361	Sukhinder	I Bedi
119	119	1.06.09.2014	1317.82	7372	Sukhinder	I Bedi
121	121	1.06.11.2014	1496.27	7392	Sukhinder	I Bedi
123	123	1.06.16.2014	2391.85	7399	Sukhinder	I Bedi
124	124	1.06.16.2014	866.93	7512	Sukhinder	I Bedi
126	126	1.06.19.2014	2055.64	7523	Sukhinder	I Bedi
133	133	1.06.27.2014	4703.48	7829	Sukhinder	I Bedi
136	136	1.07.05.2014	3980.48	7841	Sukhinder	I Bedi
141	141	1.07.09.2014	1251.14	7996	Sukhinder	I Bedi
142	142	1.07.09.2014	1986.32	7996	Sukhinder	I Bedi

ExpenseMaster Records: 2,541/7,215 Global Filter: Expense_Amount <= 500.00

2541 Records

- c. Use a filter to show all expenses less than or equal to \$500.00. Count the results.

Expense_Amount < 500.00

ExpenseMaster Expense_Amount < 500.00

Transaction_Number	Employee_Number	Expense_Date	Expense_Amount	xCodes	Employee_First_Name	Employee_Last_Name
1	1	1.12.31.2013	30.44	2741	Sukhinder	I Bedi
2	2	1.01.01.2014	294.83	2791	Sukhinder	I Bedi
3	3	1.01.02.2014	53.66	3000	Sukhinder	I Bedi
5	5	1.01.04.2014	368.30	3002	Sukhinder	I Bedi
6	6	1.01.04.2014	62.13	3004	Sukhinder	I Bedi
7	7	1.01.05.2014	270.91	3005	Sukhinder	I Bedi
9	9	1.01.06.2014	45.75	3007	Sukhinder	I Bedi
10	10	1.01.07.2014	423.84	3008	Sukhinder	I Bedi
12	12	1.01.09.2014	10.34	3010	Sukhinder	I Bedi
14	14	1.01.11.2014	14.32	3012	Sukhinder	I Bedi
20	20	1.01.14.2014	135.57	3018	Sukhinder	I Bedi
21	21	1.01.19.2014	305.53	3020	Sukhinder	I Bedi
22	22	1.01.21.2014	12.88	3021	Sukhinder	I Bedi
24	24	1.01.22.2014	53.60	3023	Sukhinder	I Bedi
25	25	1.01.23.2014	51.68	3024	Sukhinder	I Bedi
26	26	1.01.24.2014	235.97	3025	Sukhinder	I Bedi
27	27	1.01.24.2014	228.45	3027	Sukhinder	I Bedi
28	28	1.01.24.2014	11.33	3028	Sukhinder	I Bedi
30	30	1.01.25.2014	495.56	3030	Sukhinder	I Bedi
31	31	1.01.25.2014	31.80	3031	Sukhinder	I Bedi
32	32	1.01.26.2014	28.30	3032	Sukhinder	I Bedi
33	33	1.01.26.2014	92.80	3033	Sukhinder	I Bedi
34	34	1.01.27.2014	351.37	0742	Sukhinder	I Bedi
35	35	1.01.28.2014	7.04	0763	Sukhinder	I Bedi
37	37	1.01.31.2014	36.65	4111	Sukhinder	I Bedi
40	40	1.02.04.2014	7.37	4511	Sukhinder	I Bedi
41	41	1.02.07.2014	18.46	4582	Sukhinder	I Bedi
42	42	1.02.09.2014	309.20	4723	Sukhinder	I Bedi
43	43	1.02.10.2014	28.38	4761	Sukhinder	I Bedi
44	44	1.02.12.2014	292.71	4789	Sukhinder	I Bedi
45	45	1.02.12.2014	170.77	4815	Sukhinder	I Bedi
46	46	1.02.15.2014	479.55	4821	Sukhinder	I Bedi
49	49	1.02.18.2014	7.36	4900	Sukhinder	I Bedi
50	50	1.02.22.2014	60.31	5094	Sukhinder	I Bedi
51	51	1.02.23.2014	13.83	5172	Sukhinder	I Bedi
53	53	1.03.04.2014	1.00	5271	Sukhinder	I Bedi
54	54	1.03.12.2014	14.63	5309	Sukhinder	I Bedi
55	55	1.03.12.2014	8.52	5411	Sukhinder	I Bedi
56	56	1.03.13.2014	7.00	5422	Sukhinder	I Bedi
57	57	1.03.16.2014	43.15	5451	Sukhinder	I Bedi
58	58	1.03.17.2014	38.34	5499	Sukhinder	I Bedi

ExpenseMaster Records: 4,674/7,215 Global Filter: Expense_Amount < 500.00

4674 Records

24. Exam Step 3 – Analyze the Data

- a. Duplicates

- i. Are there any duplicates expenses? **Submit the results.**

Test for Duplicates on EmployeeNumber, ExpenseDate, ExpenseAmount

```
As of: 04/07/2017 23:37:05
Command: DUPLICATES ON Employee Number Expense Date Expense Amount OTHER Employee Number EmployeeMaster.Employee Last Name PRESORT TO SCREEN ISOLocale root
Table: ExpenseMaster
0 duplicates detected
```

Test for Duplicates on EmployeeNumber, ExpenseDate

```
As of: 04/07/2017 23:41:15
Command: DUPLICATES ON Employee Number Expense Date OTHER Expense Amount PRESORT TO SCREEN ISOLocale root
Table: ExpenseMaster
1839 duplicates detected
```

Test for Duplicates on ExpenseDate, TransactionCode

```
As of: 04/07/2017 23:45:07
Command: DUPLICATES ON Expense Date Transaction Code OTHER Employee Number PRESORT TO SCREEN ISOLocale root
Table: ExpenseMaster
295 duplicates detected
```

- ii. Why would this be significant? **Submit your answer in one to three sentences.**
Duplicate expenses could be a sign of fraud.
- b. Address Discrepancies
 - i. Do the addresses look correct?
The addresses are not correct.
 - ii. Why would this be significant? **Submit your answer in one to three sentences.**
False addresses are a sign of expense fraud.
 - iii. Are the zip codes accurate – You will need to use an outside source of information?
The zip codes are not accurate.
 - iv. Why would this be significant? **Submit your answer in one to three sentences.**
False addresses are a sign of expense fraud.

c. Transaction Analysis

- i. How much was spent on unacceptable transaction codes? **Submit the results.**

```
ExpenseMaster Total
As of: 04/08/2017 02:53:02
Command: TOTAL FIELDS Expense Amount
Table: ExpenseMaster
Filter: xCodes = UnacceptableCodes.xCodes (726 records matched)
Expense_Amount 483,100.78
```

- ii. How much was spent on acceptable transaction codes? **Submit the results.**

As of: 04/07/2017 23:52:27
 Command: [TOTAL FIELDS Expense Amount](#)
 Table: ExpenseMaster
 Filter: xCodes = acceptableCodes.xCodes (6489 records matched)

Expense_Amount 4,441,642.15

iii. How much was spent on all airlines? **Submit the results.**

As of: 04/07/2017 23:57:25
 Command: [TOTAL FIELDS Expense Amount](#)
 Table: ExpenseMaster
 Filter: BETWEEN(ALLTRIM(xCodes) , '3000' , '3299') OR xCodes = '4511' (2277 records matched)

Expense_Amount 1,480,656.28

iv. How much was spent on all restaurants? **Submit the results.**

As of: 04/08/2017 00:03:44
 Command: [TOTAL FIELDS Expense Amount](#)
 Table: ExpenseMaster
 Filter: MATCH(ALLTRIM(xCodes) , "5812","5814") (35 records matched)

Expense_Amount 29,454.02

v. How much was spent on all rental cars? **Submit the results.**

As of: 04/08/2017 00:08:31
 Command: [TOTAL FIELDS Expense Amount](#)
 Table: ExpenseMaster
 Filter: BETWEEN(ALLTRIM(xCodes) , "3351" , "3440") OR xCodes="7512" (655 records matched)

Expense_Amount 428,772.11

vi. How much was spent on veterinary services? **Submit the results.**

As of: 04/08/2017 00:11:04
 Command: [TOTAL FIELDS Expense Amount](#)
 Table: ExpenseMaster
 Filter: MATCH(ALLTRIM(xCodes) , "0742") or MATCH(ALLTRIM(xCodes) , "742") (7 records matched)

Expense_Amount 2,758.12

vii. How much was spent on Court Costs, Including Alimony and Child Support), Fines, Bail and Bond Payment, Tax Payments, and Government Loan Payments? **Submit the results.**

As of: 04/08/2017 00:12:51
 Command: [TOTAL FIELDS Expense Amount](#)
 Table: ExpenseMaster
 Filter: MATCH(ALLTRIM(xCodes) , "9211","9222","9223","9311","9411") (25 records matched)

Expense_Amount 11,634.74

viii. Are there multiple transactions with the same employee in a brief period (3 days)?

As of: 04/08/2017 00:38:48
 Command: SUMMARIZE ON Employee Number Expense Date SUBTOTAL Expense Amount TO SCREEN PRESORT ISOCALE root
 Table: ExpenseMaster

Employee__Number	Expense_Date	Expense_Amount	Count
1	12/31/2013	30.44	1
1	01/01/2014	294.83	1
1	01/02/2014	53.65	1
1	01/03/2014	622.96	1
1	01/04/2014	430.43	2
1	01/05/2014	270.91	1
1	01/06/2014	716.11	2
1	01/07/2014	1,957.41	2
1	01/09/2014	10.34	1
1	01/10/2014	593.68	1
1	01/11/2014	14.32	1
1	01/13/2014	2,887.23	2
1	01/14/2014	3,364.64	4
1	01/19/2014	30.53	1
1	01/21/2014	12.88	1
1	01/22/2014	3,312.83	2
1	01/23/2014	51.68	1
1	01/24/2014	475.75	3
1	01/25/2014	933.43	3

All employees have this condition. Employee 1 for example has many transactions over any three-day period. Using summarize shows this clearly.

- ix. Why would this any or all this information be helpful in determining fraud?

All of it. Each represents techniques to determine employee mistakes, dishonesty and potential fraud.

25. Exam Step 4 – Analyze the Data

a. Benford Analysis

- a. Perform a Benford Analysis on the ExpenseMaster data. **Submit the results.**

As of: 04/08/2017 00:43:53
 Command: BENFORD ON Expense Amount LEADING 1 TO SCREEN
 Table: ExpenseMaster

3 zero amounts bypassed

Leading Digits	Actual Count	Expected Count	Zstat Ratio
1	2339	2171	4.299
2	1251	1270	0.571
3	883	901	0.625
4	630	699	2.723
5	513	571	2.510
6	463	483	0.910
7	395	418	1.146
8	388	369	0.994
9	350	330	1.099

- b. Is the data consistent with a Benford Distribution?

Pretty close. Note the Zstat Ratio. The z-score is a statistical measure of how many standard deviations a number is from the mean and allows the auditor to empirically determine—not guess—whether deviations from the pattern are statistically significant. The larger the z-score, the less likely it is that unexpected frequencies are the result of chance - See more at: <http://www.journalofaccountancy.com/issues/2007/jun/flexingyoursuperfinancialsleuthpower.html#sthash.dDBJYcWo.dpuf>

- c. What might this mean?

Benford analysis is inconclusive.