TEMPLE UNIVERSITY

Digital Systems

ICA#17: Practice Exam

FOX MIS

ROADMAP

START

Week 1:
Introduction & Systems Analysis
- Course Description
- Systems Thinking

Assignments #01 & 02

Week 2:
Digital Product Management & Introduction to Process Mapping
- Max Labs 1a & 1b
- Systems & Processes
- Swim Lane Diagrams

Assignment #03

Week 3:
Data Modeling with Entity Relationship Diagrams
- Swim Lane Diagrams
- ERD Diagrams

Assignment #04

Week 4:
Digital Systems – Learn IT! #1
- ERD Diagrams
- Learn IT Kickoff

Assignment #05

Week 5:
Exam #1,
Max Labs & Information Systems: Part I & II
- CRM & ERP

*Exam: check course site
Assignment #06

Week 6:
Information Systems: Parts I - III
- Data Analytics
- SCM

Assignment #07

Week 7:
Platforms & Digital Business Models: Part I & II
- Platforms & Digital Models
- APIs

Week 8:
Information Systems & Cybersecurity
- Protection Protocols
- Artificial Intelligence

Assignment #08

Week 9:
Exam #2 & JavaScript Unit #1
- Parts I & II
- Hello World, Variables

*Exam: check course site

Week 10:
JavaScript Unit #2 Functions
- Values & Variables
- Operator types
- Strings

Assignment #9

Week 11:
JavaScript Unit #3 Logical Operators & Conditional Logic
- Logical Operators
- Conditional Types

Week 12:
JavaScript Unit #4 Loops
- Intro to Loops
- While and Do

Assignment #10

Week 13:
JavaScript Unit #4 Working with Loops & HTML & CSS Unit
- Writing the code
- HTML & CSS Basics

Week 14:
HTML & CSS Unit (continued)
- HTML & CSS Basics
- Course Reflection

Assignments #11
*Final Exam: check course site

FINISH

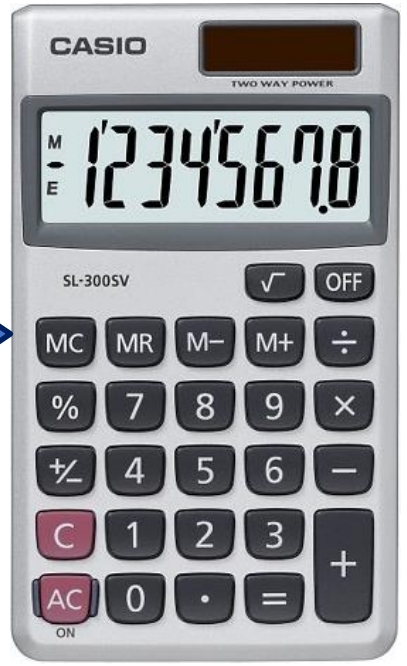
Final Exam is on:
Friday April 29 at 1 pm!

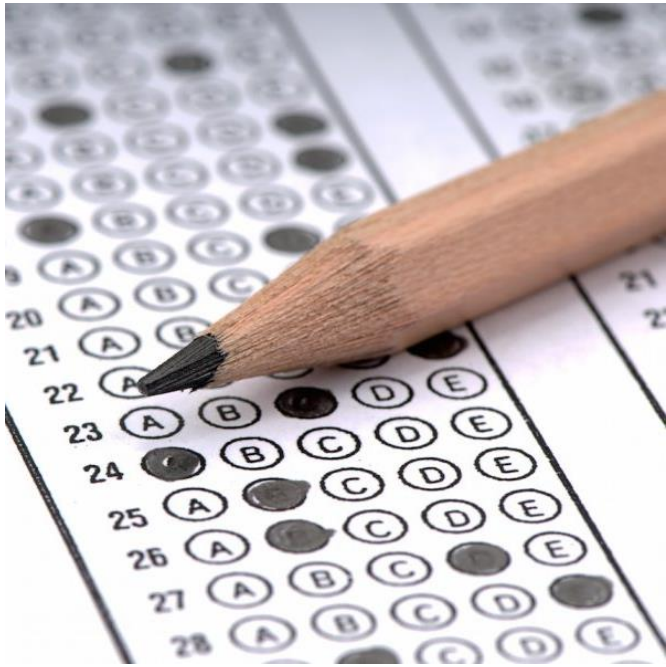
Bring: Calculator & pencil #2

Exam will Cover Discussions from week 9-14

- **Total of 20 multiple choice questions**
- **Readings and Lectures (50% - 10 questions)**
  - Values & Variables
  - Functions
  - Logical Operators
  - Conditional Logic
  - Loops
  - CSS, HTML and JavaScript basics
- **Coding – Demonstrate your ability to apply (50% - 10 questions)**
  - Code Analysis & Diagnosis

You can use a CALCULATOR





Source: https://target.scene7.com/is/image/Target/GUEST_a97f68d0-6348-4802-9d47-89b3a854a20e?wid=488&hei=488&fmt=pjpeg

Source: https://ccesnews.org/opinion/2018/04/23/10-tips-for-exam-preparation/#photo

Sample Question:

- A loop cannot start with a negative number?
  - Refer to the example below:

```
for (var i = -10; i <= 30; i=i+5) {
```

- True or False

Sample Question:

- A loop cannot start with a negative number?
  - Refer to the example below:

```
for (var i = -10; i <= 30; i=i+5) {
```

- True or False

Sample Question:

- **What is your MPG if you have driven 320 Miles and used 20 Gallons of gas? (analyze the code)**

A. 15

B. 16

C. 20

D. 32

```
<!DOCTYPE html>
<html>
<body>
    <!-- replace the text below with your name!-->
    <!-- -->
    <title> TYPE YOUR NAME HERE</title>
<script>
//
// A car's miles-per-gallon (MPG) can be calculated with the following formula:
// MPG=Milesdriven/Gallonsofgasused
//

function calculateMPG(miles, gas) {

////////////////////////////////////////////////////////////////////////////////
// Insert your code between here and the next comment block.  Do not alter     //
// any code in any other part of this file.                                    //
////////////////////////////////////////////////////////////////////////////////

    return miles/gas;

////////////////////////////////////////////////////////////////////////////////
// Insert your code between here and the previous comment block.  Do not alter //
// any code in any other part of this file.                                    //
////////////////////////////////////////////////////////////////////////////////

}

var milesDriven = prompt('How many miles have you driven? ');
var gasUsed = prompt('How much gas have you used driving that far? ')

alert('You car is getting ' + calculateMPG(milesDriven, gasUsed) + ' MPG.');

</script>
</body>
</html>
```

Sample Question:

- **What is your MPG if you have driven 320 Miles and used 20 Gallons of gas? (analyze the code)**

A. 15

B. 16 (320/20)

C. 20

D. 32

```
<!DOCTYPE html>
<html>
<body>
    <!-- replace the text below with your name!-->
    <!-- -->
    <title> TYPE YOUR NAME HERE</title>
<script>
//
// A car's miles-per-gallon (MPG) can be calculated with the following formula:
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////////////////////////////////////////////////////////////////////////////////

    return miles/gas;

////////////////////////////////////////////////////////////////////////////////
// Insert your code between here and the previous comment block.  Do not alter //
// any code in any other part of this file.                                    //
////////////////////////////////////////////////////////////////////////////////

}

var milesDriven = prompt('How many miles have you driven? ');
var gasUsed = prompt('How much gas have you used driving that far? ')

alert('You car is getting ' + calculateMPG(milesDriven, gasUsed) + ' MPG.');

</script>
</body>
</html>
```

Sample Questions:

1. After 10 minutes, how many calories have you burned?`

A. 0 B. 45 C. 67.5

2. After 30 minutes, how many total calories have you burned?`

A. 112.5 B. 135 C. 450 D. 1350

3. If we change the initial value of i to 20 how many times does the function run and how many total calories are burned?

A. 3, 90 B. 5, 135 C. 3, 135 D. Does not run

4. If we change i <= 30 to i <=40 how many times does the function run and how many total calories are burned?

A. 5, 135 B. 7, 180 C. 7, 225 D. Does not run

```
<!DOCTYPE html>
<html>
<body>
    <!-- replace the text below with your name!-->
    <!-- -->
    <!-- -->
    <title> TYPE YOUR NAME HERE</title>
<script>

function displayCaloriesBurned()  {

////////////////////////////////////////////////////////////////////////////
// Insert your code between here and the next comment block.  Do not alter //
// any code in any other part of this file.                                //
////////////////////////////////////////////////////////////////////////////

    for (var i = 10; i <= 30; i=i+5) {
        alert('In ' + i + ' minutes, you will have burned ' + i*4.5 + ' calories');
    }

////////////////////////////////////////////////////////////////////////////
// Insert your code between here and the previous comment block.  Do not alter //
// any code in any other part of this file.                                //
////////////////////////////////////////////////////////////////////////////

}

displayCaloriesBurned();

</script>
</body>
</html>
```

Sample Questions:

Using the program myFunction.html, what is displayed when you pass 11 as the first number and 14 as the second number?

a. 1114

b. 25

c. 1411

d. 50

e. None of the above

```
<!DOCTYPE html>
<html>
<body>
    <!-- replace the text below with your name!-->
    <!-- -->
    <!-- -->
    <title> TYPE YOUR NAME HERE</title>
<script>

function myFunction (firstNumber, secondNumber) {

var valueToReturn = 0;
for (var i = firstNumber; i<= secondNumber; i++ ) {
valueToReturn = valueToReturn + i;
}
return valueToReturn;

}

var firstNumber = parseInt(prompt("What is the first number?"));
var secondNumber = parseInt(prompt("What is the second number?"));
alert (myFunction(firstNumber, secondNumber));

</script>
</body>
</html>
```

Sample Questions:

Using the program myFunction.html, what is displayed when you pass 11 as the first number and 14 as the second number?

a. 1114

b. 25

c. 1411

d. 50 (11+12+13+14)

e. None of the above

```
1
2   <!DOCTYPE html>
3   <html>
4   <body>
5       <!-- replace the text below with your name!-->
6       <!-- -->
7       <!-- -->
8       <title> TYPE YOUR NAME HERE</title>
9   <script>
10
11  function myFunction (firstNumber, secondNumber) {
12
13  var valueToReturn = 0;
14  for (var i = firstNumber; i<= secondNumber; i++ ) {
15  valueToReturn = valueToReturn + i;
16  }
17  return valueToReturn;
18
19  }
20
21  var firstNumber = parseInt(prompt("What is the first number?"));
22  var secondNumber = parseInt(prompt("What is the second number?"));
23  alert (myFunction(firstNumber, secondNumber));
24
25  </script>
26  </body>
27  </html>
```

Sample Question:

- **What's wrong with the statement listed below?**

```
var 365days = prompt ("How many days are in a year?");
```

Sample Question:

- **What's wrong with the statement listed below?**

```
var 365days = prompt ("How many days are in a year?");
```

Variable name cannot begin with a number!

Individual Practice Exam:

- **Open the file on canvas (In Class Activity #17)**
- **Fill out your answers**
- **Upload your updated file**

ICA Answers

- 1. D
- 2. B
- 3. C
- 4. B
- 5. A
- 6. A
- 7. D
- 8. A
- 9. E (The correct answer is 22)
- 10. B

- **Enter the exit code**

1639

Thank you!!!!