Assignment 1

Deadline: Day 22/10/2017 @ 23:59

**[Total Mark for this Assignment is 5]**

***Computer Programming I***

***CS 140***

**Instructions:**

* This Assignment must be submitted on Blackboard via the allocated folder.
* Email submission will not be accepted.
* You are advised to make your work clear and well-presented, marks may be reduced for poor presentation.
* You MUST show all your work.
* Late submission will result in ZERO marks being awarded.
* The work should be your own, copying from students or other resources will result in ZERO marks.
* Use **Times New Roman** font for all your answers.

Student Details:

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| **Name:**###  **CRN:**### |  | **ID:**### |
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# Question One

***2 Marks***

*Learning Outcome(s):*

*Become familiar with implementation of classes, and objects*

When running JavaApplication8, the following output is seen on the display:

Addition(2,3) = 5

JavaApplication.java is given below with some missing parts in the Circuit class and printCircuit method (missing parts are identified by dots):

1. Fill in all missing parts

Ans 1:

class Circuit{

private String operation;

privateint number1, number2, output;

public Circuit(int n1, int n2){

number1 = n1;

number2 = n2;

}

public void setNumbers(int n1, int n2){

number1 = n1;

number2 = n2;

}

public void setOperation(String op){operation=op;}

public void setN1(int n){number1 = n;}

public void setN2(int n){number2 = n;}

public void setOutput(int n){output = n;}

public String getOperation(){return operation;}

public int getN1(){return number1;}

publicint getN2(){return number2;}

publicintgetOutput(){return output;}

}

public class JavaApplication8 {

private static void printCircuit(Circuit a){

System.out.println(a.getOperation()+ "(" +a.getN1() + "," + a.getN2() + ") = " +a.getOutput());

}

public static void main(String[] args) {

Circuit a1 = new Circuit(2,3);

a1.setOperation("Addition");

a1.setOutput(a1.getN1()+a1.getN2());

printCircuit(a1);

}

}

2. Modify the main() method so that the output becomes:

Subtraction(2,3) = -1

Ans 2:

class Circuit {

private String operation;

private int number1, number2, output;

public Circuit(int n1, int n2) {

number1 = n1;

number2 = n2;

}

public void setNumbers(int n1, int n2) {

number1 = n1;

number2 = n2;

}

public void setOperation(String op) {

operation = op;

}

public void setN1(int n) {

number1 = n;

}

public void setN2(int n) {

number2 = n;

}

public void setOutput(int n) {

output = n;

}

public String getOperation() {

return operation;

}

public int getN1() {

return number1;

}

public int getN2() {

return number2;

}

public int getOutput() {

return output;

}

}

public class JavaApplication8 {

private static void printCircuit(Circuit a){

System.out.println(a.getOperation()+ "(" +a.getN1() + "," + a.getN2() + ") = " +a.getOutput());

}

public static void main(String[] args) {

Circuit a1 = new Circuit(2, 3);

a1.setOperation("Subtraction");

a1.setOutput(a1.getN1() - a1.getN2());

printCircuit(a1);

}

}

# Question Two

***0.5 Marks***

*Learning Outcome(s):*

Design algorithms using pseudo-code

What is Pseudo-code? Write a Pseudo-code to determine a student’s final grade and indicate whether it is passing or failing. The final grade is calculated as the average of five marks. (Passing criteria is Grade >=50 )

Pseudo-code: is simplify the program to understand the flow of the program. we can use pseudo code to understand the logic behind the program.

1. Initialize the variable sum equal to 0
2. Get grades one by one and add that grade value to sum.
3. Find the average by doing sum/5.
4. If average is Gretter than equal 50 then print PASS else print FAIL

# Question Three

***0.5 Marks***

*Learning Outcome(s):*

Introduction to programming

What is the use of class file in Java Programming?

* Class define the behavior of object of that type (CLASS). We can say that class is collection of methods and variables.
* We use class to create object and do some operations.

# Question Four

***0.5 Marks***

*Learning Outcome(s):*

Write, compile and run complete Java program

Write a complete java program that will display the word *CS* and the number *140*, each on its own line.

public class Question4 {

public static void main(String[] args){

System.out.println("CS");

System.out.println("140");

}

}

# Question Five

***1 Marks***

*Learning Outcome(s):*

*Distinguish between valid/invalid identifiers and the Java keywords*

Which of the following identifiers are valid? Which are Java keywords?

miles, Test, a++, 4#R, $4, #44, apps

class, int, x

Valid are: miles, Test, $4, apps, x

Java Keywords are: class, int

# Question Six

***0.5 Marks***

*Learning Outcome(s):*

*Identify and fixing the errors in Java program*

Identify and fix the errors in the following Java program

//create space between public , class , Test

public class Test {

//create space between public , static , void

public static void main(String[] args) {

//K is not declare and initialize so we need to declare and initialize

int k = 0;

//create space between int , i

int i = k + 2;

System.out.println(i);

}

}