Assignment 2

Deadline: Thursday 2/11/2017 @ 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:

|  |  |  |
| --- | --- | --- |
|  |  |  |
| **Name:** ###  **CRN:** ### |  | **ID:** ### |
|  |  |  |

# Question One

***1 Marks***

*Learning Outcome(s):*

To recognize the different types in java expression.

To write arithmetic expressions in Java.

1. Give the type and value of each result of the following Java expressions.

1. (5 / 2) \* 2.0 = 4.0 //Type: double
2. (5/2.0) \* 2 = 5.0 //Type: double
3. "1.3" + "5.2" = 1.35.2 //Type: String
4. 1 + 7.0 + "2" + "x" = 8.02x //Type: String

2. For the following mathematical expressions, write the corresponding Java expressions.

Ans: Math.sqrt((x\*x) - y)

# Question Two

***1 Marks***

*Learning Outcome(s):*

Distinguish between correct/incorrect and logically questionable comparisons

Given the following declaration:

int i1 = 1;

int i2 = 2;

String S1 = "Hello";

String S2 = "HELLO";

double d1 = 1.0;

double d2 = 2;

For each of the following comparisons, specify:

* Which are syntactically correct?
* Which are syntactically incorrect?
* Which are syntactically correct but logically questionable?

Only specify the answer on the following table; an example is given.

|  |  |  |  |
| --- | --- | --- | --- |
| Comparisons | Syntactically correct | Syntactically incorrect | Syntactically correct, but logically questionable |
| i1 == i2 | X |  |  |
| d1 == d2 | X |  |  |
| s1 == "Hello" |  |  | X |
| s1 == s2 |  |  | X |
| s1 == d1 |  | X |  |
| i2-d2 == null |  | X |  |
| i1.equals(i2) |  | X |  |
| d1.equals(d2) |  | X |  |
| (s1-s2).equals(null) |  | X |  |
| i1-i2 == 0 | X |  |  |
| s1.equals(s2) | X |  |  |

# Question Three

***2 Marks***

*Learning Outcome(s):*

Use the if/else statement.

Get an input from the user.

Write Java program to allow the user to input his/her password twice. Then the program will show if the password is accepted. If both input are similar and the password length is between 8 and 16, then the password will be accepted else the password will be refused and the program print the specific error message.

**NB: you have to run your program then join a screenshot of the execution to your answer**

Typical run of the program

Scenario 1

Enter your password:

password1

Enter your password again:

password2

The password is not accepted

Passwords do not match!

Scenario 2

Enter your password:

pass

Enter your password again:

pass

The password is not accepted

The password length must be between 8 and 16

Scenario 3

Enter your password:

pass1

Enter your password again:

pass2

The password is not accepted

Passwords do not match!

Scenario 4

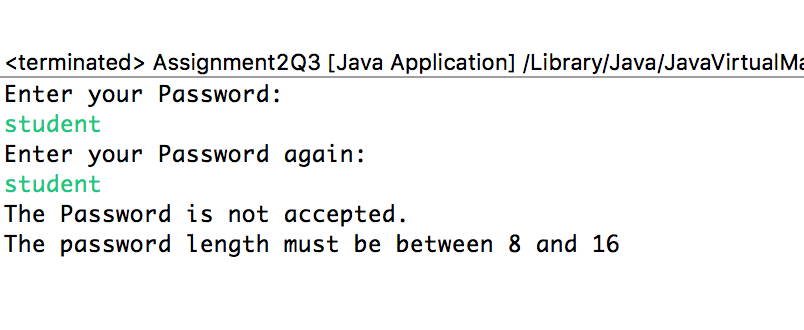
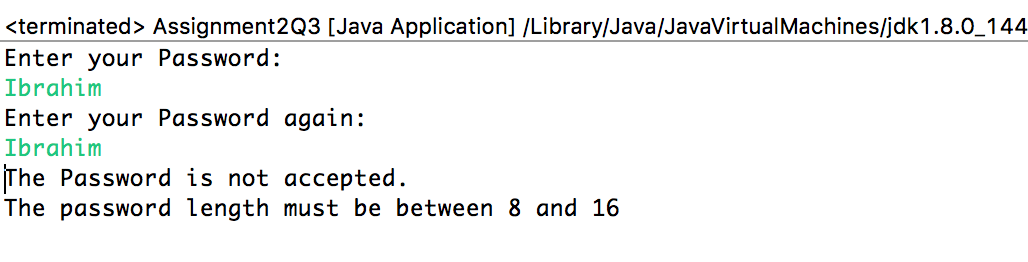
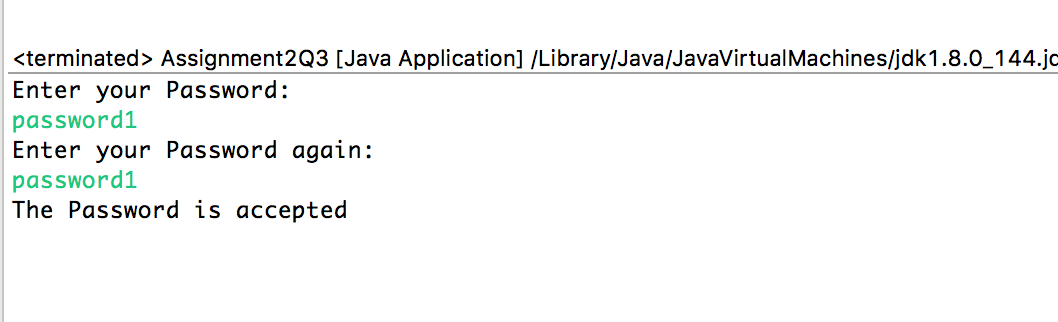
Enter your password:

password1

Enter your password again:

password1

The password is accepted



public class Assignment2Q3 {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter your Password:");

String pass = sc.nextLine();

System.out.println("Enter your Password again:");

String again = sc.nextLine();

if (pass.equals(again)) {

if (pass.length() < 8 || pass.length() > 16 || again.length() < 8 || again.length() > 16) {

printError();

System.out.println("The password length must be between 8 and 16");

} else {

System.out.println("The Password is accepted");

}

}else{

printError();

System.out.println("The Passwords do not match!");

}

if (pass.length() == again.length()) {

if (pass.equals(again)) {

System.out.println();

} else {

}

} else {

System.out.println("The Passwords do not match!");

}

}

private static void printError() {

System.out.println("The Password is not accepted.");

}

}

# Question Four

***1 Marks***

*Learning Outcome(s):*

Conditional statements and comparison operators

Write program that takes the user age as input. Then the program will display whether the person is authorized to participate in vote or not. A person’s age who is authorized to vote should be 18 years or older.

**Example output:**

Enter your age: 18

You are authorized to vote.

import java.util.Scanner;

public class Assignment2Q4 {

public static void main(String[] args) {

// TODO Auto-generated method stub

Scanner sc = new Scanner(System.in);

System.out.print("Enter your age: ");

int age = sc.nextInt();

if(age>17){

System.out.println("You are authorized to vote.");

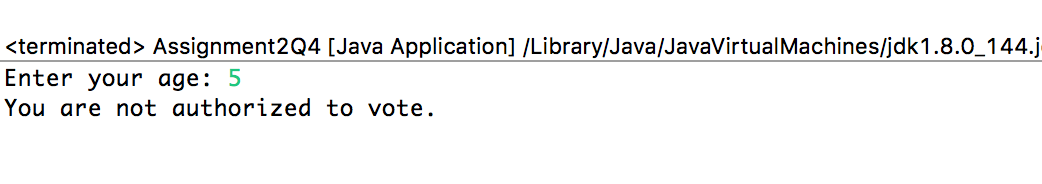
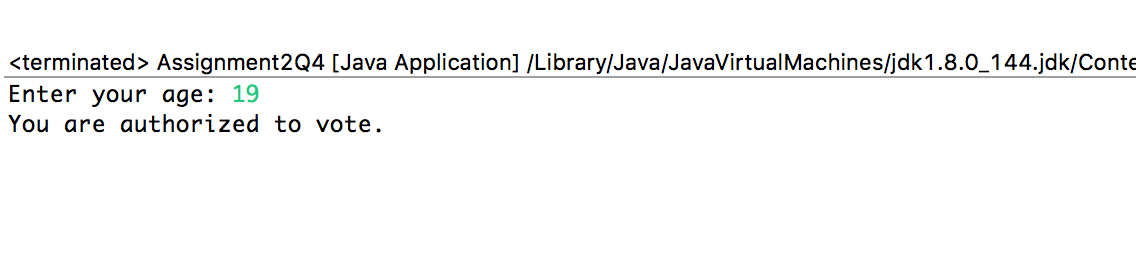
}else{

System.out.println("You are not authorized to vote.");

}

}

}

****