



American University of Science & Technology

Faculty of Arts and Sciences

Department Of Computer Science

CSI250L / ICT311L – Programming II Lab

Fall 2015/2016

Lab Work 2

Problem1:

Trace the following java applications:

- a. What results from attempting to compile and run the following code?

```
public class Conditional{
    public static void main( String args[] )
    {
        int x = 4;
        System.out.println( "Value is"+ ( ( x > 4 ) ? 99.9 : 9 ));
    }
}
```

- A. The output: value is 99.9
- B. The output: value is 9
- C. The output: value is 9.0
- D. A compiler error at Line 5.

- b. What is the output of the following program? Assume the user inputs **12** for one execution of the program and **15** for a second execution?

```
import javax.swing.JOptionPane;

public class Compares{
    public static void main( String a[] )
    {
        int integer;
        String input;
        input = JOptionPane.showInputDialog( "Enter an integer:" );
        integer = Integer.parseInt( input );
        if( (integer % 6) == 0 )
            System.out.println( "Hello");
        else
            System.out.println("Good Bye");
    }
}
```

- c. What would happen when the following application is compiled and executed? Select the one correct answer.

```
public class Compares
{
    public static void main(String args[])
    {
        int x = 10, y;
        if(x < 10)
            y = 1;
        if(x >= 10) y = 2;
        System.out.println("y is " + y);
    }
}
```

- A. The program compiles and prints y is 0 when executed.
- B. The program compiles and prints y is 1 when executed.
- C. The program compiles and prints y is 2 when executed.
- D. The program does not compile complaining about y not being initialized.
- E. The program throws a runtime exception.

- d. What would happen when the following application is compiled and executed? Select the one correct answer.

```
public class Compares
{
    public static void main(String args[])
    {

        boolean flag = false;
        if( flag == true )
            System.out.println( "true");
        else
            System.out.println( "false");
    }
}
```

- A. It will print false;
- B. it will print true;
- C. It will print none.
- D. Compilation error.
- E. Runtime error.

Problem 2:

Find the errors in the following application and correct them:

```
import java.util.scanner;
public class check
{
    public static void main(string []args)
    {

        int x, y;
        Scanner s=new Scanner(System.in);
        system.out.println("enter an integer:");
        x=s.nextint();

        y= x*2;
        System.out.printf("x= %d, y= %f",x,y);

    }
}
```

Problem 3:

Type the following java application then apply the following listed steps:

```
import java.util.Scanner;
public class Example1
{
    public static void main(String args[])
    {
        double radius;
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter The Radius");
        radius = sc.nextDouble();
        System.out.println("The area is "+ 2*3.14*(radius*radius));
    }
}
```

1. Compile then execute the program from the cmd prompt.
2. Modify the program to compute the circle and use printf statement to output the circumference value.
3. Modify the program to provide the input and output using JOptionPane methods.

Problem 4:

Write a java application that input an integer X, >0 (*use a Scanner object*) from the user and displays:

- The factorial all even integers from 1 to X.
- The cubic value of all integers from 1 to X
- All prime numbers from 1to X.

Problem 5:

Write an application that prompts the user to enter a 5-digit integer (*Use a Scanner object*). Separate the number into its individual digits, and then display the following: (*Use printf statement*)

- a- The sum of the five digits being extracted.
- b- The number of digits that are even.
- c- The number of digits that are odd.
- d- The number of digits that are zero.

Example: For the input 10234, the output will be:

Sum of digits: $1 + 0 + 2 + 3 + 4 = 10$.

Zero digits count: 1.

Odd digits count: 2.

Even digits count: 2.

(*Modify the code so it works for a number of N digits.*)