**Handson exercise**

**Problem Statement:**

**1)** Find out whether the following file will compile. If it does not compile, how you would fix it?

public static void main(String[ ] args) {

int x = 5;

while (x > 1) {

x = x + 1;

if (x < 3) {

System.out.println(“small x”);

}

}

}

**ANS**: NO, the above program will not complie. Since there is no “public class classname”.

public class sample1 {

public static void main(String[] args) {

int x = 5;

while (x > 1) {

x = x + 1;

if (x < 3)

System.out.println("small x");

}

}

}

**Problem Statement:**

**2)** Find out whether the following file will compile. If it does not compile, how you would fix it?

class Digit {

public static void main(String[ ] args) {

int x = 1;

while (x < 10) {

if (x > 3) {

System.out.println(“big x”);

}

}

}

}

**ANS:** Compilation fails.

**Problem Statement**:

**3)** Find out whether the following file will compile. If it does not compile, how you would fix it?

class Loop {

int x = 5;

while (x > 1) {

x = x - 1;

if (x < 3) {

System.out.println(“small x”);

}

}

}

**ANS:** No, the above program throws compilation error because there is no main method.

class Sample2{

public static void main(String [] args) {

int x = 5;

while ( x > 1 ) {

x = x - 1;

if ( x < 3) {

System.out.println("small x");

}

}

}

}

**Problem Statement:**

**4)** Personalize the Hello World program with your name so that it tells you Hello rather than the somewhat generic "World."

**PROGRAM:**

public class Main

{

public static void main(String[] args) {

System.out.println("Hello Deepthi");

}

}

**Problem Statement:**

**5)**Write a program that produces the following output:

Hello World!

It's been nice knowing you.

Goodbye world!

**PROGRAM:**

public class Main

{

public static void main(String[] args) {

System.out.println("Hello World");

System.out.println("It's been nice knowing you.");

System.out.println("Goodbye world!");

}

}

**Problem Statement:**

**6)** Write a program that draws the following figures one above the other.

\* \* \* \* \* \*

\* \* \* \* \* \* \*

\* \* \* \* \* \* \* \*

\* \* \* \* \* \* \* \* \* \*

Now modify it to draw them next to each other like earlier.

**PROGRAM:**

public class Main

{

public static void main(String args[])

{

int i, j, k=4;

for(i=0; i<4; i++)

{

for(j=0; j<k; j++)

{

System.out.print("\* ");

}

System.out.println();

}

}

}

**PROGRAM:**

import java.io.\*;

public class JavaWithQAWithExperts

{

public static void printTriangle(int n)

{

int k = 2\*n - 2,i,j;

for (i=0; i<n; i++)

{

for (j=0; j<k; j++)

{

System.out.print(" ");

}

k = k - 1;

for (j=0; j<=i; j++ )

{

System.out.print("\* ");

}

System.out.println();

}

}

public static void main(String args[])

{

int n = 5;

printTriagle(n);

}

}

**Problem Statement:**

**7)** Write a program that prints all the integers between zero and 36.

**PROGRAM:**

public class Exercise {

public static void main(String args[]) {

for (int i=0; i<=36; i++) {

System.out.print(i +", ");

}

System.out.println("\n");

}

}

**Problem Statement:**

**8)** What does the following program print?

// This is the Hello Rank program in Java

class HelloRank {

public static void main (String args[ ]) {

String name = "Rank";

/\* Now let's say hello \*/

System.out.println("Hello + name");

}

}

**OUTPUT**: Hello + name

**Problem Statement:**

**9)** What is wrong with this program?

// This is the Hello program in Java

class Hello {

public static void main (String args[ ]) {

int i;

System.out.print("Hello "); // Say Hello

i = 0; // Initialize loop counter

while (i <= args.length) { // Test and Loop

System.out.print(args[i] + " ");

i = i + 1; // Increment Loop Counter

}

System.out.println(); // Finish the line

}

}

**ANS:**

Hello Exception in thread "main" java.lang.ArrayIndexOutOfBoundsException: Index 0 out of bounds for length 0at Hello.main(Hello.java:7)

**Problem Statement:**

**10)** What is the output of the following program?

import java.util.\*;  
 public class Area {  
 public static void main(String[ ] args){  
 double a;  
 double r;  
 final double pi = Math.PI;  
   
 r = 1.0;  
 a = pi \* r \* r;  
 display(r,a);  
   
 r = 1.5;  
 a = pi \* r \* r;  
 display(r,a);  
   
 r = 2.0;  
 a = pi \* r \* r;  
 display(r,a);  
 }//end main  
 //-------------------------------------------//  
 static void display(double r, double a){  
 System.out.println("For radius = " + r +  
 ", area = " + a);  
 }//end print  
 }//end Area class

**OUTPUT:**

For radius = 1.0, area = 3.141592653589793

For radius = 1.5, area = 7.0685834705770345

For radius = 2.0, area = 12.566370614359172

**Problem Statement:**

**11)** There are exactly 2.54 centimeters to an inch. Write a program that takes a number of inches from the command line and converts it to centimeters.

**PROGRAM:**

import java.util.Scanner;

public class Exercise2 {

public static void main(String[] Strings) {

Scanner input = new Scanner(System.in);

System.out.print("Input a value for inch: ");

double inch = input.nextDouble();

double meters = inch \* 0.0254;

System.out.println(inch + " inch is " + meters + " meters");

}

}

**Problem Statement:**

**12)** Write a program that reads two numbers from the command line, the number of hours worked by an employee and their base pay rate. Then output the total pay due

**PROGRAM:**

import java.util.Scanner;

public class AddTwoNumbers2 {

public static void main(String[] args) {

int hour, basepay, total;

Scanner sc = new Scanner(System.in);

System.out.println("Enter No.of hours: ");

hour = sc.nextInt();

System.out.println("Enter base pay rate ");

basepay = sc.nextInt();

sc.close();

total = hour + basepay;

System.out.println("Total pay due: "+total);

}

}

**Problem Statement:**

**13)** What is the output of the following program?

class Hexy {

public static void main (String[] args) {

Integer i = 42;

String s = (i<40)?"life"i>50)?"universe":"everything";

System.out.println(s);

}

}

**ANS:** E. Compilation fails