**Assignment – 3**

**(Operators and Command Line Argument)**

Q1. Convert the temperature readings given in degree Fahrenheit to degree

Celsius, using the following formula :

C = (5/9) \* (F - 32)

Test these values in degree Fahrenheit using CLA: 68, 150, 212, 0, -22, -200.

**CODE**

class A3Q1

{

public static void main (String args[])

{

double f=Double.parseDouble(args[0]);

double c= (5.0/9.0)\*(f-32.0);

System.out.println("The celsius value for the fahrenheit value "+f+" is "+c);

System.out.println("The fahrenheit value for the celsius value "+c+" is "+f);

}

}

**OUTPUT**

**To Compile : javac A3Q1.java**

**To Run : java A3Q1 68**

**Output :**

The celsius value for the fahrenheit value 68.0 is 20.0

The fahrenheit value for the celsius value 20.0 is 68.0

To **Run** : java A3Q1 150

Output :

The celsius value for the fahrenheit value 150.0 is 65.55555555555556

The fahrenheit value for the celsius value 65.55555555555556 is 150.0

To **Run** : java A3Q1 212

Output :

The celsius value for the fahrenheit value 212.0 is 100.0

The fahrenheit value for the celsius value 100.0 is 212.0

Q2. Calculate the volume and surface area of a sphere using the following

formula:

V= 4/3 πr3

A = 4 πr2

π=3.14159

Test the program using CLA for the given radius: 1, 6, 12.2,0.2.

**CODE**

class A3Q2

{

public static void main (String args[])

{

double r=Double.parseDouble(args[0]);

double pi = 3.14159;

double v= (4.0/3.0)\*pi\*r\*r\*r;

double a= 4\*pi\*r\*r;

System.out.println(" Volume of sphere with radius "+r+" = " +v);

System.out.println(" Area of sphere with radius "+r+" = " +a);

}

}

**OUTPUT**

**To Run : java A3Q2 6**

**Output :**

**Volume of sphere with radius 6.0 = 904.7779199999999**

**Area of sphere with radius 6.0 = 452.38895999999994**

**To Run : java A3Q2 12.2**

**Output :**

Volume of sphere with radius 12.2 = 7606.199891093332

Area of sphere with radius 12.2 = 1870.3770223999998

Q3. WAP in JAVA to find the smaller and greater number among two numbers

read from CLA using **ternary operator**.

**CODE**

class A3Q3

{

public static void main (String args[])

{

int a= Integer.parseInt(args[0]);

int b= Integer.parseInt(args[1]);

int max = (a>b)?a:b;

int min = (a<b)?a:b;

if(a==b)

System.out.println("Both are equal");

else

{

System.out.println("Greatest is "+max);

System.out.println("Smallest is "+min);

}

}

}

**OUTPUT**

**To Compile : javac A3Q3.java**

**To Run : java A3Q3 5 3**

**Output : Greatest is 5**

**Smallest is 3**

Q4. Write a program to show the use of ++, -- and different assignment operators.

**CODE**

class A3Q4

{

public static void main (String args[])

{

int a = Integer.parseInt(args[0]);

System.out.println("Increasing value of "+a+" is "+ ++a);

System.out.println("Decreasing value of "+a+" is "+ --a);

}

}

**OUTPUT**

**To Compile : javac A3Q4.java**

**To Run : java A3Q4 5 10**

**Output : Increasing value of 5 is 6**

**Decreasing value of 6 is 5**

Q5. WAP to observe the difference between – and ~ operators.

**CODE**

class A3Q5

{

public static void main (String args[])

{

int a = Integer.parseInt(args[0]);

int b = ~a;

int c = -a;

System.out.println(a);

System.out.println("~"+a+" = "+b);

System.out.println("-"+a+" = "+c);

}

}

**OUTPUT**

**To Compile : javac A3Q5.java**

**To Run : java A3Q5 5 3**

**Output : 5**

**~5 = -6**

**-5 = -5**