

Assignment - 3

1. Write a program to calculate and print the surface area of cuboid whose length, breadth and height will be given by the user.
Surface area of cuboid is $= 2lb + 2bh + 2hl$

Class Area

{

public static void main (String args [])

{

int l, b, h;

double area;

Scanner sc = new Scanner (System.in);

System.out.println ("Enter the sides of cuboid");

l = sc.nextInt();

b = sc.nextInt();

h = sc.nextInt();

area = $2 * (l * b + b * h + h * l)$

System.out.println ("Surface Area is : " + area);

}

}

2. Write a program to input two numbers from the user and find the maximum number between them and print it as a output.



Class Number

```
{
    public static void main (String args[])
    {
        int a, b; max;
        Scanner sc = new Scanner (System.in);
        System.out.println("Enter two numbers");
        a = sc.nextInt();
        b = sc.nextInt();
        max = Math.max(a, b);
        System.out.println("Maximum number is: " + max);
    }
}
```

3. Write a program to evaluate the expression $x = \sqrt{a^2 + b^2}$, where the value of a and b will be given by the user and print the value of x .

Class Expression 1

```
{
    public static void main (String args[])
    {
        int a, b;
        double x;
        Scanner sc = new Scanner (System.in);
```



```
System.out.println("Enter the value of a and b");
a = sc.nextInt();
b = sc.nextInt();
x = Math.sqrt(Math.pow(a, 2) + Math.pow(b, 2));
System.out.println("value of x is : " + x);
```

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4. Write a program to evaluate the expression $y = ax^3 + bx^2 + cx + d$, where the value of a, b, x and d will be given by the user and print the value of y .

Class Expression 2

{

public static void main (String args[])

{

int a, b, x, d;

double y;

Scanner sc = new Scanner (System.in);

System.out.println("Enter the value of a, b, x and d");

a = sc.nextInt();

b = sc.nextInt();

x = sc.nextInt();

d = sc.nextInt();

y = a * (Math.pow(x, 3) + b * Math.pow(x, 2) + c * x + d);

System.out.println("Value of y is : " + y);

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5. What is the difference between math.ceil and math.floor ?

The math.ceil function rounds a floating point value up to the nearest integer value.

Whereas

The math.floor function rounds a floating point value down to the nearest integer value.

6. Evaluate the value of y the following Java expression :-

$\text{double } y = \text{math.ceil}(-31.887) + \text{math.round}(234.44) + \text{math.max}(-45, -50).$

$$y = -31 + 234 + (-45)$$

$$y = -76 + 234$$

$$y = 158$$

7. Write the equivalent Java Expression of $S = ut + \frac{1}{2}at^2$

$$S = u * t + 1/2 * a * \text{Math.pow}(t, 2)$$