OOPS LAB

FILE

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DevOps -B1

Experiment - 2 & 3

Basic Java Programming.

① Write a program to find the largest of 3 numbers.

Code:

```
public class Number
  {
    public static void main (String[] args)
    {
      int a = Integer.parseInt (args[0]);
      int b = Integer.parseInt (args[1]);
      int c = Integer.parseInt (args[2]);
      if (a>b && a>c)
      System.out.println (a);
      else if (b>c && b>a)
      System.out.println(b);
      else if (c>a && c>b)
      System.out.println (c);
    }
  }.
```

Output:

```
javac Number.java
java Number 10 20 30
30
```

② Write a program to add two numbers using command line arguments.

Code:

```
public class Add
{
   public static void main (String [] args)
  {
    int a = Integer.parseInt (args[0]);
    int b = Integer.parseInt (args [1]);
    int sum = a+b;
    System.out.println (sum);
  }.
}.
```

Output:

```
java Add 30 20
50
```

③ Write a program to print Fibonacci series.

Code:

```
public class Fibonacci
{
  public static void main (String[] args)
   {
      int a=0, b= 0 , c=1;
      int n= Integer.parseInt (args [0]);
      System.out.println ("Fibonacci Series:");
       for (int i=1; i<=n; i++)
       {
          a=b;
          b=c;
          c=a+b;
          system.out.println (a+" ");
       }.
}. }.
```

Output:

java Fibonacci 7
Fibonacci Series: 0 1 1 2 3 5 8.

④ Write a program to print Fibonacci implement a command line calculator.

Code:

```
public class calci
{
  public static void main (String[] args)
 {
  int a = Integer.parseInt (args[0]);
  int b = Integer.parseInt (args[2]);
  if (args[1]. equals ("+"))
 {
 int  sum= a+b;
 System.out.println (sum);
 }.
 else if (args[1].equals("-"))
 {int  diff = a-b;
  System.out. println (diff);
 }.
 else if ( args[1].equals ("*"))
 { int  prod = a*b;
   System.out.println (prod);
  }.
 else if ( args[1].equals("/"))
  { int  div =a/b;
   System.out.println (div);
 }.
}.
}.
```

Output: java calci 2+3

5.

⑤ Write a program using classes and objects in java.

```
class Name
{
    void printName (String s)
    {
        System.out.println ("My name is " +s)
    }
}
public class Main
{
    public static void main (String [] args)
    {
        Name obj = new Name ();
        obj.printname ("ABC");
    }}.
```

Output: My name is ABC.

⑥ Write a program to accept 10 students marks in array, arrange it and convert to grades and print grades and marks in tabular form. (40-50: Pass ; 51-75: Merit; above-distinction)

```
import java.util.scanner
public class Marks
{
    public static void main (String args [])
    {
        int [] marks = new int[10];
        Scanner sc = new Scanner (System.in);
        for (int i=0; i<10 ; i++)
        {
            marks [i] = sc.nextInt ();
            if ( marks [i] >40 & marks [i] <=50).
            System.out.println (marks [i] +" : Pass");
            else if (marks [i] >50 & marks [i] <=75);
            System.out.println (marks [i] +" Merit");
            else if (marks [i] >75)
            System.out.println (marks [i] +" Distinction");
        }.
    }.
```

Output: 45 45Pass.

⑦ write a program to accept three digits (0-9) and print all its possible combinations.

```
import java.util.scanner;
public class combination
  {
    public static void main (String [] args)
     {
       System.out.println ("Enter three nos");
       Scanner sc = new scanner (System.in);
       int [] arr = new int [3];
        for (int i=0; i<3 ; i++)
            arr [i]= sc.nextInt ();
                {
                  for (int j= 0 ; j<3; j++)
                  {
                    for (int k=0; k<3 ; k++)
                    { if (i!=j && j!= k && k!= i)
                      System.out.println (arr [i] +" " + arr [j] +" " +arr [k]);
       } } } }.
```

Output: 1 2 3 123 132 213 231 312 321

⑧ WAP to accept 10 nos. in a array and compute the square of each no. Print sum of them.

```
import java.util.scanner;
public class square {
      public static void main (String [] args)
        { int [] arr = new int [10];
          Scanner sc = new Scanner (System.in);
          for (int i=0 ; i<10 ; i++)
              arr[i]= sc.nextInt ();
           System.out.println ("sum of square:");
            int sum=0;
            for (int i= 0; i<10 ; i++)
                sum = sum + arr [i] * arr [i];
              System.out.println (sum);
        }.
      }.
```

(9) W.A.P to input a no. b/w 1-12 and print its equivalent month.

```
import java.util.Scanner;
public class Month
{
    public static void main (String [] args)
    {
        int x;
        Scanner sc = new Scanner (System.in);
        x = sc.nextInt();
        String [] months = new String[] {"Jan", "Feb",
        "March", "April", "May", "June", "July",
        "August", "Sept", "Oct", "Nov", "Dec"};
        System.out.println (x+"=" + months [x-1]);
    }
}
```

Output: Enter 12 = December.

(10) WAP to find the sum of all integers greater than 40 and less than 250 that are divisible by 5.

```
public class Divisible
{
    psvm (String args[])
    {
        sum=0;
        for (int i=41; i<250; i++)
        {
            if (i%5==0)
            sum = sum+i;
        }
        System.out.println ("sum" + sum);
    }
}
```

Output: 5985

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Exp-4

① Write a program to show that private member of a super class cannot be accessed from derived class.

```
class Parent {
        private void fun1()
        {
            System.out.println("Hello");
        }
    }.
class Child extends Parent{
    void fun2()
    {
        system.out.println("Hello Mr. ABC");
    }
} public class Test {
    public static void main (String [] args)
    {
        child obj = new child ();
        obj.fun1();
    }.
```

Output: Error

② Write a program in Java to create a player class. Inherit the classes Cricket_Player, Football_Player and Hockey_Player from Player class.

③ Write a class worker and derive ..... he/she works.

```
class Worker
{
  String name;
  int salrate;
}
class DailyWorker extends Worker
{
  void compay (int hours)
  {
    System.out.println ("salary"+salrate *hours);
  }
}
class SalariedWorker extends Worker
{
  int hours = 40;
  void compay()
  {
    System.out.println ("salary =" +hrs *salrate);
  }
}
```

Output : worker Salary = 2205

④ Consider the trunk calls of a ..... calculate the charges.

```
import java.util.scanner;
class Call
{
  int duration;
  String type;
  float rate()
  {
    if (type == "urgent")
    return 4.5f
    else if (type == "lightning")
     return 3.5f
     else
      return 3f;
  }
}
```

```
class Bill extends Call
    Scanner sc = new Scanner (System.in);
    float amount;
    String type;
    void read ()
      {
        String s;
        System.out.println ("Enter the type of call");
        type = sc.nextline ();
        System.out.println ("Enter call type");
          s = sc.nextline ();
      }.
      void calculate ()
       {
          if (dur <= 1.5)
              amount = rate () * dur + 1.5f;
          else if (dur <=3)
              amount = rate () * dur + 2.5f;
          else if (dur <=5)
              amount = rate () * dur + 4.5f;
           else
              amount = rate () * dur + 5f;
       }.
    }.
public class Test
  {
     public static void main (String [] args)
       {
          Bill b = new Bill ();
           b.read ();
           b.calculate ();
       }.
  }.
```

Outputs:

⑤ Design a class employee .... specific percentage.

```
class Employee
{
    String name;
    int empid;
    float sal;
    Employee ()
    {
    }.
    Employee (String n, int e, float s)
    {
        name=n;
        empid = e;
        sal=s;
    }.
    String getName ()
    {
        return name;
    }.
    float getsalary ()
    {
        return sal;
    }.
void increase salary (int x)
  {
    sal = sal + sal * x / 100;
  }.
class Manager extends Employee
  {
    String deptt;
  }.
```

Exp-5.

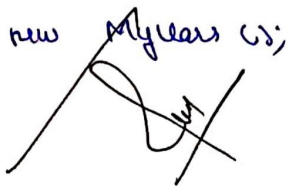
① Write a program to create interface named Test.... object of arithmetic class.

```
interface Test
{ int square();
}.
class Arithmetic implements Test
  {
      int n;
      Arithmetic (int x)
       { n=x;
        int square()
        {
          return n*n;
        }.
class ToTest
  {
    Arithmetic obj=new Arithmetic(x);
return obj.square();
 }.
public class Main
 {  public static void main()
       {
          ToTest x= new ToTest(5);
          System.out.println("square of 5 is" + obj.square(5);
      }.
   }.   output: square of 5 is 25.
```

② Write a program to create interface A, in this interface A.... another class named Myclass.

```
Interface A
{
   void math1();
   void math2();
 }.
```

```
{ Myclass implements A
  void math1()
  {
    System.out.println("Method 1");}.
    void math2()
    {
      System.out.println("Method 2");}.
  }.
public class Main
{
    Myclass obj = new Myclass();
    obj.math1();
    obj.math2();
}.
```



④ Write a program to create an interface having.... which overrides three methods.

```
interface il
{
   void division();
   void modules();
}.
class A implements il
{
   void division()
    { System.out.println("Division");}.
     void modules()
     { System.out.println("Modules");}.
  }.
public class Main
  {
     A obj = new A();
       obj.division();
         obj.modules();
       }.
```