Assignment - 2

Inheritance

(10)

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Single Inheritance

```
class A {
    public void disp() {
        System.out.println("Parent class A");
    }
}
class B extends A {
    public void disp1() {
        System.out.println("Child class B");
    }
}
public class Main {
    public static void main(String[] args) {
    b obj = new b();
    obj.disp();
    obj.disp1();
    }
}
```

output:- Parent class A
Child class B

Multilevel inheritance

```
class a {
    public void disp() {
        System.out.println("Parent class A");
    }
}
class b extends a {
    public void disp1() {
        System.out.println("child class B");
    }
}
class c extends b {
    public void disp2() {
        System.out.println("Child class c");
    }
}
```

```
public class main {
    public static void main (String [] args) {
        C obj = new C();
        obj.disp();
        obj.disp1();
        obj.disp2();
        }
}
```

Output :- Parent class A
child class B
child class C

Hierarchical

```
class a {
    a() {
        System.out.println("Parent class A");
    }
}
class b extends a {
    b() {
        System.out.println("child class b");
    }
}
class c extends a {
    c() {
        System.out.println("child class c");
    }
}
public class Main {
    public static void main (String [] args) {
        c obj = new c();
        b obj = new b();
```

Output :- Parent class A
child class c
Parent class A
child class B

Hybrid

```
class a {
    public void disp A() {
        System.out.println("class A");
        }
    }
class b extends a {
    public void disp B() {
        System.out.println("class B");
        }
    }
class c extends b {
    public void disp c() {
        System.out.println("class C");
        }
    }
class D extends b {
    public void disp d() {
        System.out.println("class D");
        }
    }
class Main {
    public static void main(String[] ~~objargs~~) {
        c obj = new c();
        obj disp A();
        obj disp B();
        obj disp c();
        }
    }
```

Output - class A
class B
class C

Multiple inheritance

```
interface A
{
  int a=10;
  void disA();
}
interface B
   int b=5;
   void disB;
  }
class C implement A,B
{
int c=5;
public void disA()
{
  System.out.println("a= "+a);
}
public void disB()
{
   System.out.println("b= "+b);
}
public void disC()
{ System.out.println("c= "+c)
}
void process() {
   System.out.println("a+b+c= "+(a+b+c)); } }
class Main {
   public static void main (String[] args) {
      C obj = new C();
      obj.process();
  } }
```

Output :- a+b+c=30

Arithmetic Exception

```
public class Main {
    public static void main(String[] args) {
    int a=5, b=0;
    try {
        System.out.println(a/b);
    }
    catch(ArithmeticException e){
        System.out.println("Divide by 0"); }
    }
}
```

Array Index out of bounds Exception

```
Public class Main
{
public static void main(String[] args){
 try
 {
  int a[]={1,2,3};
 System.out.println(a[10]);
 }
 catch(ArrayIndexOutOfBoundsException e)
 {
 System.out.println("ArrayIndexOutOfBoundsException");
    }
  }
}
```

Class not found Exception

```
public class Main {
    public static void main (String args[])
    {
     try {
        class.forName("A");
     }
    catch (class Not Found Exception e){
          e.print Stack Trace();
     }
   }
}
```

Io Exception

```
import java.io.*;
class Main {
public static void main (String [] args) {
try {
   File newFile = newFile ("test.txt");
   File Input System stream = new File Input Stream (new File);
 }
 catch (IOException e) {
    System.out.println (e.get Message ());
    }
  }
}
```