1))Create a class with a method that prints "This is parent class" and its subclass with another method that prints "This is child class".

   Now, create an object for each of the class and call

      1 - method of parent class by object of parent class

      2 - method of child class by object of child class

      3 - method of parent class by object of child class

A)

```java
class parent{
    void method() {
        System.out.println("This is parent class");
    }
}
class child extends parent{
    void method() {
        System.out.println("This is child class");
    }
}
public class saketh{
    public static void main(String args[]) {
        parent prnt = new parent();
        child chld = new child();
        parent pc = new child();
        prnt.method();
        chld.method();
        pc.method();
    }
}
```

2)) What will be the output of this program?

```java
class A
{
 {

    System.out.println(1);
   }
}
 class B extends A
{

   {

    System.out.println(2);
   }
}
class C extends B
{

   {

    System.out.println(3);
   }
}


public class MainClass
{
   public static void main(String[] args)
   {
     C c = new C();
   }
}
```

A) <u>output of given program will be</u> :-

1

2

3

Reason:- As the print statements are written in Instance initializer block that will be considered as print statements written in constructor and and will be executed first and then other body of contructor. As there is no body of constructor only IIB will be printed and as there are 3 classes showing inheritance it follows constructor chaining mechanism so the execution flow goes as mentioned A -> B -> C .

●●

3) Write a Java method to check whether a string is a valid password.
Password rules:
A password must have at least eight characters.
A password consists of only letters and digits.
A password must contain at least two digits.

input : abcd1234
output : password is valid
A)

```java
import java.util.*;
public class saketh{
    public static boolean charecters(String s) {
        for(char i = 'a'; i<='z';i++) {
            for(char x = 'A'; i<='Z';i++) {
                for(int y=0; y<s.length();y++) {
                    if(s.charAt(y)==i || s.charAt(y)==x) {
                        if(i=='z') {
                            return true;
                        }
                    } return false;

                }
            }
        }
        return false;
    }
    public static boolean digits(String s) {
        int dcount=0;
        for(int i=0; i<s.length();i++) {
            for(int x=0;x<10;x++) {
                if(s.charAt(i)==x) {
                    dcount +=1;
                    if(i==s.length()-1 && dcount>2) {
                        return true;
                    }
                }
            }
        }
        return false;
    }
    public static void main(String args[]) {
        Scanner input = new Scanner(System.in);
        System.out.println("Enter your password");

        String pwd = input.nextLine();

        if(pwd.length()>=8) {
            if(charecters(pwd)) {
                if(digits(pwd)) {
                    System.out.println("Password valid");
```

```java
                }else {
                        System.out.println("Password invaliddig");
                }
        }else {
                System.out.println("Password invalidchr");
        }
    }else {
            System.out.println("Password invalidleng");
    }
  }
}
```