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19BQ1A05E3 , CSE-C.

Java programming Assignment - I.

1) list & explain Java buzz words. which factors are making Java Famous language?

A) **Simple** : Java is really easy for any developers to learn with little programming experience. because it inherits from c, c++ ....

Secure: when Java programs are executed they don't instruct commands to the machine directly. Illegal access is not allowed by JVM.

Portable.:- portable because of its ability to run the program on any platform & independent on lying O.S.

object oriented programming: simple & easy to extend and also the primitive types are retained for high performance.

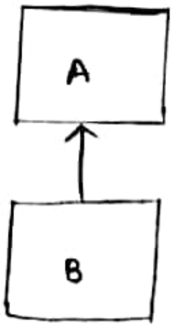
Interpreter: Jvm interpretes the byte code into machines instructions during runtime. Java is used fo Apps, software & scientific tools, making it famous language.

2) What are the benefits of inheritance? explain various forms of inheritance with suitable code segments?

A) The process by which one class requires the properties and functionalities of another class is called. Inheritance.

Single inheritance:- It refers to a super & sub-class relationship where a class extenders the other class.

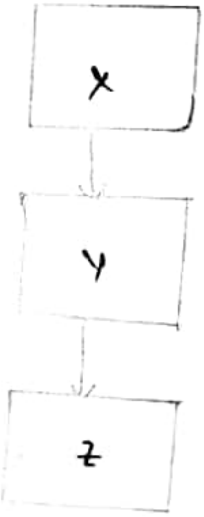
Ex:
```
class A {
      int i;
      string a;
  }
  class B extends A {
         public void set values()
         {
             i=5;
           }
  }
```



multiple Inheritance: It refers to super & sub class relationship where a class extends the sub class.

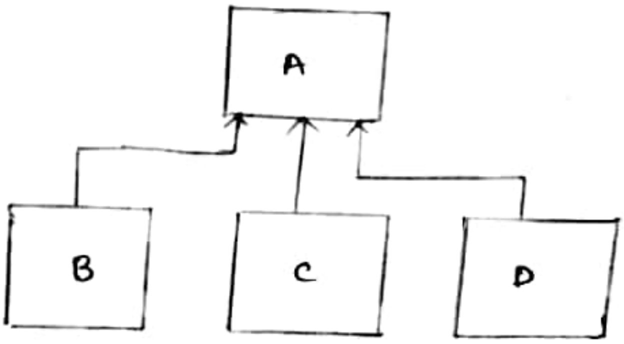
Ex:
```
 class {
     public void method() {
         System.out.println("x");
     }
    class y extends x {
        public void method y {
             System.out.println("y");
        }
    class z extends y {
        public void method z {
             System.out.println("z");

        }
 }
```



Hierarichal Inheritence: It refers to a super & sub class relationship where more than one classes extend the same class

Ex:
```
class A {
     - - - - -
     - - - - -
  }
  class B extends A
  {
   - - - - -
   }
```



```
class c extends A
 {
   - - - - -
   - - - - .
 }
```

Hybrid Inheritence: combination of more than one type of Inheritance in a single program.

Advantages of Inheritence:

1) Inheritence promotes reuasability. when a class inherits another class. It can access all the functionality of inherited class.
2) Reausability enhances reliability
3) It helps reduce code reduandancy & supports code extensibility.

3) Define a class named movie Magic with the following description:
Instance variables| data members:

int year - to store the year of release of a movie
String title - to store the title of the movie.
Float rating - to store the popularity rating of the movie.
(minimum rating = 0.0 & maximum rating = 5.0)

member methods:

(i) movie Magic () Default constructor to initialize numeric data members to 0 and string data member to " ".
(ii) void accept () To input & store year, title & rating
(iii) void display () To display the title of a movie & a message based on the rating as per the table below.

Rating	message to be displayed
0.0 to 2.0	Flop
2.1 to 3.4	Semi-hit
3.5 to 4.5	Hit
4.6 to 5.0	Super Hit

write a main method to create an object of the class & call the above member methods.

A) Program: Main

```
import java.util.scanner;
class movieMagic
{
```

```
int year;
String title;
float rating;
movie magic()
{
   year=0;
   title =" ";
   rating = 0;
}
void accept()
{
  Scanner sc=new scanner(system.in);
  system.out.println("Enter title:");
  title =sc.nextline();
  System.out.println("Enter release year:");
  year =sc.next line();
  system.out.println("Enter rating:");
  rating =sc.nextline();
}
   void display()
{
   system.out.println("Title:"+title);
   if (rating >=0.0 && rating<=2.0)
   {
        system.out.println("flop");
   }
    else if (rating >=2.1 && rating<=3.4)
    {
       system.out.println("semi hit");
    }
     else if(rating>=3.5 && rating <=4.5)
     {
        system.out.println("Hit");
     }
     else if (rating >=4.6 && rating <=5.0)
     {
        system.out.println("superhit");
     }
else {
        system.out.println("Rating should be b/w 0.0 and 5.0");
      }
  }
  public static void main(string args[])
  {
     movie magic ob=new movie magic();
      ob.accept()
      ob.display();
    }
}
```

4) write a class to overload a function num_calc() as follows:

i) void num_calc (int num, char ch) with one Integer argument & one character argument. If it computes the square of Integer argument if choosed 'ch' is 's' other wise find its cube.

ii) void num_calc (int a, int b, char ch) with 2 Integer arguments & one character argument. It computes the product of Integer arguments if ch is 'p' else adds the Integers.

iii) void num-calc(string s1, string s2) with two arguments, which prints whether the strings are Equal (or) not.

A) **Program:** overloading function num-calc

```
  import java.io.*;
  import java.util.*;
  Class calc
  {
    void num_calc(int num, class ch)
    {
        int a=0;
        if (ch=='s')
          Q=num*num;
          else
            a=num*num^num;
         system.out.println("a*=" +a);
    }
     void num-calc(int a, int b, class ch)
     {
          int q=0;
        if(ch ==" p")
          q =a Rb;
     else
          q =a+b;
     System.out.println("q =" +q);
  }
   void num-calc(string s1, string s2)
   {
        if (s1.equals (s2))
           System.out.println(" Both strings are Equal");
        else
           system.out.println (" Both String (or) not Equal");
   }
   public static void main (string args[])
    {
            Calc ob=new Calc();
            ob. num-calc (10, 's');
             ob. num-calc (20, 30,'q');
      }       ob. num-calc ("Java", "program");
}
```

out put: a=100; q=50.

Both strings are not Equal.

Resources:

1) https://j4school.wordpress.com/java-tutorials/

2) https://beginners.com/2013/03/inheritance-in-java/

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