

ASSIGNMENT-1

Q1. You need to create an Account class that consist of various data members, such as account number, name, age and balance. The application must initialize the data members to default values when an object of the Account class is created. In addition to this, the application must display the data stored in the object.

➤ Code:

```
class Account{
    int ac_no,age,bal;
    String name;
    Account(){
        ac_no = 101;
        age = 18;
        bal = 0;
        name = "User";
    }
    public void get_info(){
        System.out.println("Account number is: " + ac_no);
        System.out.println("Name is: " + name);
        System.out.println("Age is: " + age);
        System.out.println("Balance is: " + bal);
    }
}

public class assignment1_1 {
    public static void main(String[] args) {
        Account Ashish = new Account();
        Account Sandeep = new Account();
        Ashish.get_info();
        Sandeep.get_info();
    }
}
```

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```
}  
  
}
```

➤ Output:

Account number is: 101

Name is: User

Age is: 18

Balance is: 0

Account number is: 101

Name is: User

Age is: 18

Balance is: 0

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Q2. A passenger of FlyHigh Airlines can travel by two types of ticket reservations, Confirmed ticket and Requested ticket. The Airline reservation has various attributes, such as flight number, date, time, and destination. Both type of classes inherit these common attributes. The Confirmed ticket class would however have a seat number while a Requested ticket class would have a status attribute. Draw the class hierarchy diagram for the three classes depicting the inherited attributes of the sub classes and their individual attributes. Also write a Java application demonstrating the same.

➤ Code:

```
class Air_ticket{
    int flight_no;
    String date,time,destination;
    public void get_info(){
        System.out.println("Flight number is: " + flight_no);
        System.out.println("Date is: " + date);
        System.out.println("Time is: " + time);
        System.out.println("Destination is: " + destination);
    }
}

class Confirmed extends Air_ticket{
    int ticket_no;
    public void get_info() {
        System.out.println("Your Ticket Is Confirmed.");
        get_info();
        System.out.println("Ticket Number is: " + ticket_no);
    }
    Confirmed(int f_no,int t_no, String d, String t, String
dest){
        flight_no = f_no;
```

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```
        ticket_no = t_no;

        date = d;

        time = t;

        destination = dest;

    }

}

class Requested extends Air_ticket{

    String status;

    public void get_info() {

        System.out.println("Your Ticket Is requested.");

        get_info();

        System.out.println("Status is: " + status);

    }

    Requested(int f_no,String stat, String d, String t, String
dest){

        flight_no = f_no;

        status = stat;

        date = d;

        time = t;

        destination = dest;

    }

}

public class assignment1_2 {

    public static void main(String[] args) {

        Confirmed person1 =new Confirmed(101,201,"12/4/2023",
"12:53", "Delhi");

        Requested person2 = new
Requested(102,"Pending","13/4/2023","1:23","Patna");

    }

}
```

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```
    person1.get_info();  
    person2.get_info();  
}  
}
```

➤ Output:

```
Your Ticket Is Confirmed.  
Flight number is: 101  
Date is: 12/4/2023  
Time is: 12:53  
Destination is: Delhi
```

```
Ticket Number is: 201  
Your Ticket Is requested.  
Flight number is: 102  
Date is: 13/4/2023  
Time is: 1:23  
Destination is: Patna  
Status is: Pending
```

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Q3. Write a Java program to demonstrate the various types of variables , such as Class variables, Instance variables, Local variables and Static variables used in Java. (show them by writing proper comments before each type of the variable)

➤ **Code:**

```
class Demo{
//    Class Variable.
    int x = 20;
    //Static variable.
    static int n = 30;
    Demo(){
        //local variable.
        int a = 20;
        System.out.println("Local Variable is a : " + a);
        System.out.println("Class Variable is x : " + x);
        System.out.println("Static Variable is n: " + n);
    }
}

public class assignment1_3 {
    public static void main(String[] args) {
        //Instance Variable.
        Demo d1 = new Demo();
    }
}
```

➤ **Output:**

```
Local Variable is a : 20
Class Variable is x : 20
Static Variable is n: 30
```

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Q4. Write a Java program to demonstrate the use of various Literals in Java such as Integer literals, Floating point literals, Character literals, String literals and Boolean literals.

➤ Code:

```
public class assignment1_4 {  
    public static void main(String[] args) {  
        int a = 23;  
        float pi = 3.14F;  
        char x = 'X';  
        String name = "Ashish";  
        System.out.println("Integer Literal is: " + a);  
        System.out.println("Float Literal is: " + pi);  
        System.out.println("Char. Literal is: " + x);  
        System.out.println("String Literal is: " + name);  
    }  
}
```

➤ Output:

Integer Literal is: 23

Float Literal is: 3.14

Char. Literal is: X

String Literal is: Ashish

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Q5. Write a Java program to perform various bitwise operations on two numbers 5 and 7.

➤ **Code:**

```
public class assignment1_5 {  
    public static void main(String[] args) {  
        int x=5,y=7;  
        System.out.println( "Value of x is: " + x);  
        System.out.println( "Value of y is: " + y);  
        System.out.println("X ^ Y = " + (x ^ y));  
        System.out.println("~Y = " + (~y));  
        System.out.println("X >> 2 = " + (x >> 2));  
        System.out.println("Y << 2 = " + (y << 2));  
        System.out.println("Y >>> 2 = " + (y >>> 2));  
    }  
}
```

➤ **Output:**

Value of x is: 5

Value of y is: 7

X ^ Y = 2

~Y = -8

X >> 2 = 1

Y << 2 = 28

Y >>> 2 = 1