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();

}

}

* 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

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;

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");

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

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

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

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