

# DIGITAL ASSIGNMENT-1

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Video URL- [https://drive.google.com/file/d/1ADoPl6-S\\_e-ExLoOt4GZoj4IkfmKZrDI/view?usp=sharing](https://drive.google.com/file/d/1ADoPl6-S_e-ExLoOt4GZoj4IkfmKZrDI/view?usp=sharing)

Q1)

Code-

Package “Customers”-

**customer.java-**

```
package customers;
import java.util.Scanner;

public class customer
{
    public String name, mobile, street, area, pin;
    public customer()
    {
        Scanner s=new Scanner(System.in);
        System.out.print("Enter name: ");
        name=s.next();
        System.out.print("Enter mobile number: ");
        mobile=s.next();
        System.out.println("Enter Address ");
        System.out.print("\tEnter street: ");
        street=s.next();
        System.out.print("\tEnter area: ");
        area=s.next();
        System.out.print("\tEnter pincode: ");
        pin=s.next();
    }
}
```

**gas\_connection.java-**

```
package customers;

import java.time.LocalDate;
```

```

import java.util.Scanner;

public class gas_connection extends customer
{
    public static int connection=2021;
    public int noc,conn;
    public LocalDate last=LocalDate.now();
    public gas_connection()
    {
        super();
        Scanner s=new Scanner(System.in);
        conn=connection++;
        while(true)
        {
            System.out.print("No of cylinders required(max 2):");
            noc=s.nextInt();
            if(noc<=2)
                break;
            else
                System.out.println("Cylinders exceed booking limit.");
        }
        System.out.println("Last booking date: "+last);
    }
}

```

## **Package “gas\_supplier”-**

### **gas\_agency.java-**

```

package gas_supplier;

public interface gas_agency
{
    public static final String agency_name="HP Gas";
    public static final int agency_code=2021;
    public static final String phone="9484938493";
    public void display(String cname,String cmob,double amt);
}

```

## Package “gasbooking”-

### booking.java-

```
package gasbooking;
import java.time.LocalDate;
import java.util.Scanner;

public class booking
{
    public LocalDate book;
    public int otp;
    public double amount=1000;
    public String status;
    public int con;
    public booking(int conn_no)
    {
        this.con=conn_no;
        System.out.println("Connection number: "+con);
        Scanner s=new Scanner(System.in);
        System.out.println("Enter Booking date.");
        System.out.print("Enter required date:");
        int date=s.nextInt();
        System.out.print("Enter required month:");
        int mon=s.nextInt();
        System.out.print("Enter required year:");
        int yr=s.nextInt();
        book=LocalDate.of(yr,mon,date);
        otp=(int)(Math.random()*9000)+1000;
        System.out.println("OTP for booking: "+otp+" (ps don't share)");
        this.status="B";
    }
}
```

### delivery.java-

```
package gasbooking;

import gas_supplier.*;

import java.time.LocalDate;
import java.util.Scanner;

public class delivery implements gas_agency
{
    public String deli_person;

    public String deli_no;

    public int conn_no,otps;

    public LocalDate deli,bookin;

    public delivery(int c,LocalDate bk,int otp){
```

```

Scanner s=new Scanner(System.in);

System.out.print("Delivery Person name: ");

deli_person=s.next();

System.out.print("Delivery person number: ");

deli_no=s.next();

System.out.print("Enter required date:");

int date=s.nextInt();

System.out.print("Enter required month:");

int mon=s.nextInt();

System.out.print("Enter required year:");

int yr=s.nextInt();

deli=LocalDate.of(yr,mon,date);

this.conn_no=c;

this.bookin=bk;

this.otps=otp;

}

public void display(String cname, String cmob, double amt)
{
    LocalDate date= LocalDate.now();

    System.out.println("-----");

    System.out.println("Gas Agency Code: "+agency_code+"\t Date of Invoice: "+date);

    System.out.println("Gas Agency Name: "+agency_name+"\t Gas Agency Phone: "+phone);

    System.out.println("Connection number: "+conn_no+"\t Customer Name: "+cname);

    System.out.println("Booking Date: "+bookin+"\t Customer Contact: "+cmob);

    System.out.println("-----");

    System.out.println("Amount: "+1000+"\nRefund: "+(1000-amt)+"\nTotal Amount: "+amt);

    System.out.println("-----");

    System.out.println("Delivery Person Details\nName: "+deli_person+"\nNumber: "+deli_no+"\nDelivery date: "+deli);

    System.out.println("-----");

}

```

```
}
```

## **Main Code-**

### **assignment.java-**

```
import customers.*;
```

```
import gasbooking.*;
```

```
import java.time.LocalDate;
```

```
import java.time.temporal.ChronoUnit;
```

```
import java.util.Scanner;
```

```
public class assignment
```

```
{
```

```
    static int check(gas_connection[] a, int no, int n)
```

```
    {
```

```
        for(int i=0; i<n; i++)
```

```
        {
```

```
            if(a[i].conn==no)
```

```
                return i;
```

```
        }
```

```
        return -1;
```

```
    }
```

```
    static void cyl(delivery[] d,gas_connection[] a,int n,String mon,String area)
```

```
    {
```

```
        int cy=0;
```

```
        for(int i=0; i<n; i++)
```

```
        {
```

```
            if(d[i]==null)
```

```
                break;
```

```
            if(d[i].deli.getMonth().toString().equals(mon.toUpperCase())&&area.equalsIgnoreCase(a[i].area.toUpperCase()))
```

```

        cy+=a[i].noc;
    }
    System.out.println("No. of cylinders delivered at "+area+" on the month of "+mon+"
is: "+cy);
}
static void late(delivery[] d, gas_connection[] a, booking[] b, int n, String mon)
{
    int cy=0;
    for(int i=0; i<n; i++)
    {
        if(d[i]==null)
            break;

        if(d[i].deli.getMonth().toString().equals(mon.toUpperCase())&&b[i].amount<1000)
            cy+=a[i].noc;
    }
    System.out.println("No. of cylinders delivered late in the month of "+mon+" is:
"+cy);
}
static void scyl(gas_connection[] a, int n)
{
    System.out.println("Details of Single Cylinder purchasers:");
    for(int i=0; i<n; i++)
    {
        if(a[i].noc==1)
        {
            System.out.println("Name:"+a[i].name+"\t\tMobile:
"+a[i].mobile+"\t\tConnection Number: "+a[i].conn);
        }
    }
}
static void deliveryperson(String del_person,delivery[] d,gas_connection[] a,int n)
{

```

```

        System.out.println("Details of Cylinder Holders who got cylinder delivered by
"+del_person);

        for(int i=0; i<n; i++)
        {
            if(d[i]==null)
            {
                break;
            }

            if(d[i].deli_person.equalsIgnoreCase(del_person))
            {
                System.out.println("Name: "+a[i].name+"\t\tStreet:
"+a[i].street+"\t\tArea: "+a[i].area);
            }
        }
    }

    static void booking_details(delivery[] d, booking[] b, int n)
    {
        System.out.println("DELIVERED BOOKINGS");

        for(int i=0; i<n; i++)
        {
            if(b[i]==null)
            {
                break;
            }

            if(b[i].status.equals("D"))
            {
                System.out.println("Connection Number :"+b[i].con+"\tBooking
Date: "+b[i].book.toString()+"\tAmount: "+b[i].amount);
            }
        }

        System.out.println("PENDING BOOKINGS");

        for(int i=0; i<n; i++)
    
```

```

    {
        if(b[i]==null)
        {
            break;
        }
        if(b[i].status.equals("P"))
        {
            System.out.println("Connection Number :"+b[i].con+"\tBooking
Date: "+b[i].book.toString()+"\tAmount: "+b[i].amount);
        }
    }
    System.out.println("CANCELLED BOOKINGS");
    for(int i=0; i<n; i++)
    {
        if(b[i]==null)
        {
            break;
        }
        if(b[i].status.equals("C"))
        {
            System.out.println("Connection Number :"+b[i].con+"\tBooking
Date: "+b[i].book.toString()+"\tAmount: "+b[i].amount);
        }
    }
    String dp[]=new String[10];
    for(int i=0; i<10; i++)
    {
        dp[i]="";
    }
    int l=0;
    System.out.println("DELIVERY PEOPLE");
    for(int i=0; i<n; i++)

```



```

        {
            if(d[i]==null)
            {
                break;
            }
            int f=0;
            for(int p=0; p<10; p++)
            {
                if(dp[p].equalsIgnoreCase(d[i].deli_person))
                {
                    f=1;
                }
            }
            if(f==0)
            {
                System.out.println("Name: "+d[i].deli_person+" Phone:
"+d[i].deli_no);

                dp[l]=d[i].deli_person.toUpperCase();

                l++;
            }
        }
    }

    public static void main(String[] args)
    {
        Scanner s=new Scanner(System.in);

        int n,c,i=0,j=0;

        System.out.println("Enter no. of connections: ");

        n=s.nextInt();

        gas_connection[] a=new gas_connection[n];

        booking[] b=new booking[n];

        delivery[] d=new delivery[n];

        while(true)

```

```

{
    System.out.println("Enter Choice of request:\n1.Add Customer\n2.Book
connection\n3.Check Status\n4.Delivery details");
    c=s.nextInt();
    switch (c)
    {
        case 1:
            a[i]=new gas_connection();
            i++;
            System.out.println("CUSTOMER ADDED
SUCCESSFULLY\nConnection No.: "+a[i-1].conn);
            break;
        case 2:
            System.out.println("Enter Connection Number: ");
            int conn_no=s.nextInt();
            int k=check(a,conn_no,i);
            if(k==-1)
            {
                System.out.println("NUMBER NOT FOUND");
                break;
            }
            b[j]=new booking(conn_no);
            long diff= ChronoUnit.DAYS.between(a[j].last,b[j].book);
            if(!((diff>=30 && a[j].noc==1) || (diff>=50 && a[j].noc==2)))
            {
                System.out.println("You cannot book a cylinder
now!!!");
                break;
            }
            a[j].last=b[j].book;
            j++;
            System.out.println("Gas connection Booked!\nDon't share
the OTP.");

```

```
break;
```

case 3:

```
System.out.println("Enter Connection Number: ");
```

```
int co2=s.nextInt();
```

```
int k2=check(a,co2,i);
```

```
if(k2==-1)
```

```
{
```

```
    System.out.println("NUMBER NOT FOUND");
```

```
    break;
```

```
}
```

```
System.out.println("Provide Checking Date: ");
```

```
System.out.print("Enter Date: ");
```

```
int date=s.nextInt();
```

```
System.out.print("Enter Month: ");
```

```
int mon=s.nextInt();
```

```
System.out.print("Enter Year: ");
```

```
int year=s.nextInt();
```

```
LocalDate d2=LocalDate.of(year,mon,date);
```

```
if(b[k2].status.equals("B"))
```

```
{
```

```
    long diff2=
```

```
ChronoUnit.DAYS.between(b[k2].book,d2);
```

```
    if(diff2>=7)
```

```
    {
```

```
        b[k2].status="P";
```

```
        System.out.println("STATUS: PENDING");
```

```
    }
```

```
}
```

```
if(b[k2].status.equals("B"))
```

```
{
```

```
    System.out.println("STATUS: BOOKED");
```

```
}
```

```

else if(b[k2].status.equals("D"))
{
    System.out.println("STATUS: DELIVERED");
}
else if(b[k2].status.equals("C"))
{
    System.out.println("STATUS: CANCELLED");
}
break;

```

case 4:

```

System.out.println("Enter Connection Number: ");
int co3=s.nextInt();
int k3=check(a,co3,i);
if(k3==-1)
{
    System.out.println("CONNECTION NUMBER NOT
FOUND");

    break;
}
if(b[k3].status.equals("D"))
{
    System.out.println("GAS ALREADY DELIVERED");
    break;
}
else if(b[k3].status.equals("C"))
{
    System.out.println("BOOKING CANCELLED");
    break;
}
d[k3]=new delivery(co3,b[k3].book,b[k3].otp);
LocalDate d3=d[k3].deli;
long diff2= ChronoUnit.DAYS.between(b[k3].book,d3);

```

```

double amt = 0;
if(!(diff2>=2&&diff2<=7))
{
    amt=b[k3].amount-(0.05*b[k3].amount);
    System.out.println("5% from the amount has been
refunded since delivery had taken more than 7 days. Final Amount is: "+b[k3].amount);
}
System.out.println("FOR DELIVERY: ");
System.out.println("Enter OTP which customer gives: ");
int cust_otp=s.nextInt();
if (cust_otp==d[k3].otps)
{
    System.out.println("ORDER DELIVERED
SUCCESSFULLY");

    b[k3].status="D";
    d[k3].display(a[k3].name,a[k3].mobile,amt);
}
else
{
    System.out.println("OTP MISMATCH---ORDER
CANCELLED");

    b[k3].status="C";
}
break;

default:
    break;
}
System.out.println("To exit Press '1' else Press any other number");
int cont=s.nextInt();
if(cont==1)
{
    break;
}

```

```

        }
    }
    System.out.println("To Display number of cylinders delivered to a particular area at
a given month");
    System.out.println("Enter Area: ");
    String area=s.next();
    System.out.println("Enter Month: ");
    String month=s.next();
    cyl(d,a,n,month,area);
    System.out.println("To Display number of cylinders delivered late in a specified
month");
    System.out.println("Enter Month: ");
    month=s.next();
    late(d,a,b,n,month);
    scyl(a,i);
    System.out.println("To Display the customer details delivered by a particular
delivery person.");
    System.out.println("Enter Deliver Person Name: ");
    String dname=s.next();
    deliveryperson(dname,d,a,n);
    System.out.println("ALL REPORTS");
    booking_details(d,b,n);
    s.close();
}
}

```

## Output-

```
Declaration Console X
<terminated> assignment [Java Application] C:\Users\Sam Methuselah\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_15.0.2.v20210201-0
Enter no. of connections:
3
Enter Choice of request:
1.Add Customer
2.Book connection
3.Check Status
4.Delivery details
1
Enter name: Sam
Enter mobile number: 9685968594
Enter Address
    Enter street: newton
    Enter area: park
    Enter pincode: 949504
No of cylinders required(max 2):1
Last booking date: 2021-04-11
CUSTOMER ADDED SUCCESSFULLY
Connection No.: 2021
To exit Press '1' else Press any other number
2
Enter Choice of request:
1.Add Customer
2.Book connection
3.Check Status
4.Delivery details
1
Enter name: Mansi
Enter mobile number: 9586958695
Enter Address
    Enter street: thomas
    Enter area: town
    Enter pincode: 594059
No of cylinders required(max 2):1
Last booking date: 2021-04-11
CUSTOMER ADDED SUCCESSFULLY
Connection No.: 2022
To exit Press '1' else Press any other number
2
Enter Choice of request:
1.Add Customer
2.Book connection
4.Delivery details
1
Enter name: Toshi
Enter mobile number: 9869504958
Enter Address
    Enter street: newton
    Enter area: park
    Enter pincode: 394039
No of cylinders required(max 2):1
Last booking date: 2021-04-11
CUSTOMER ADDED SUCCESSFULLY
Connection No.: 2023
To exit Press '1' else Press any other number
2
Enter Choice of request:
1.Add Customer
2.Book connection
3.Check Status
4.Delivery details
2
Enter Connection Number:
2021
Connection number: 2021
Enter Booking date.
Enter required date:16
Enter required month:5
Enter required year:2021
OTP for booking: 9062 (ps don't share)
Gas connection Booked!
Don't share the OTP.
To exit Press '1' else Press any other number
2
Enter Choice of request:
1.Add Customer
2.Book connection
3.Check Status
4.Delivery details
2
Enter Connection Number:
2022
Connection number: 2022
```

```
Declaration Console X
<terminated> assignment [Java Application] C:\Users\Sam Methuselah\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_15.0.2.v20210201-0
Enter Booking date.
Enter required date:5
Enter required month:4
Enter required year:2021
OTP for booking: 1245 (ps don't share)
You cannot book a cylinder now!!!
To exit Press '1' else Press any other number
2
Enter Choice of request:
1.Add Customer
2.Book connection
3.Check Status
4.Delivery details
2
Enter Connection Number:
2022
Connection number: 2022
Enter Booking date.
Enter required date:6
Enter required month:6
Enter required year:2021
OTP for booking: 4188 (ps don't share)
Gas connection Booked!
Don't share the OTP.
To exit Press '1' else Press any other number
2
Enter Choice of request:
1.Add Customer
2.Book connection
3.Check Status
4.Delivery details
2
Enter Connection Number:
2023
Connection number: 2023
Enter Booking date.
Enter required date:7
Enter required month:6
Enter required year:2021
OTP for booking: 6322 (ps don't share)
Gas connection Booked!

Declaration Console X
<terminated> assignment [Java Application] C:\Users\Sam Methuselah\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_15.0.2.v20210201-0
Don't share the OTP.
To exit Press '1' else Press any other number
2
Enter Choice of request:
1.Add Customer
2.Book connection
3.Check Status
4.Delivery details
3
Enter Connection Number:
2021
Provide Checking Date:
Enter Date: 12
Enter Month: 5
Enter Year: 2021
STATUS: BOOKED
To exit Press '1' else Press any other number
2
Enter Choice of request:
1.Add Customer
2.Book connection
3.Check Status
4.Delivery details
3
Enter Connection Number:
2022
Provide Checking Date:
Enter Date: 5
Enter Month: 6
Enter Year: 2021
STATUS: BOOKED
To exit Press '1' else Press any other number
2
Enter Choice of request:
1.Add Customer
2.Book connection
3.Check Status
4.Delivery details
4
Enter Connection Number:
2021
```



```
Declaration Console X
<terminated> assignment [Java Application] C:\Users\Sam Methuselah\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_15.0.2.v20210201-0
Delivery Person name: Rakesh
Delivery person number: 9875848594
Enter required date:12
Enter required month:10
Enter required year:2021
5% from the amount has been refunded since delivery had taken more than 7 days. Final Amount is: 1000.0
FOR DELIVERY:
Enter OTP which customer gives:
9062
ORDER DELIVERED SUCCESSFULLY
-----
Gas Agency Code: 2021      Date of Invoice: 2021-04-11
Gas Agency Name: HP Gas   Gas Agency Phone: 9484938493
Connection number: 2021   Customer Name: Sam
Booking Date: 2021-05-16   Customer Contact:9685968594
-----
Amount: 1000
Refund: 50.0
Total Amount: 950.0
-----
Delivery Person Details
Name:Rakesh
Number: 9875848594
Delivery date: 2021-10-12
-----
To exit Press '1' else Press any other number
2
Enter Choice of request:
1.Add Customer
2.Book connection
3.Check Status
4.Delivery details
4
Enter Connection Number:
2022
Delivery Person name: Kamal
Delivery person number: 9048594939
Enter required date:12
Enter required month:9
Enter required year:2021
5% from the amount has been refunded since delivery had taken more than 7 days. Final Amount is: 1000.0

Declaration Console X
<terminated> assignment [Java Application] C:\Users\Sam Methuselah\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_15.0.2.v20210201-0
FOR DELIVERY:
Enter OTP which customer gives:
1245
OTP MISMATCH---ORDER CANCELLED
To exit Press '1' else Press any other number
2
Enter Choice of request:
1.Add Customer
2.Book connection
3.Check Status
4.Delivery details
4
Enter Connection Number:
2022
BOOKING CANCELLED
To exit Press '1' else Press any other number
2023
Enter Choice of request:
1.Add Customer
2.Book connection
3.Check Status
4.Delivery details
4
Enter Connection Number:
2023
Delivery Person name: Kamal
Delivery person number: 3940595848
Enter required date:12
Enter required month:10
Enter required year:2021
5% from the amount has been refunded since delivery had taken more than 7 days. Final Amount is: 1000.0
FOR DELIVERY:
Enter OTP which customer gives:
6322
ORDER DELIVERED SUCCESSFULLY
-----
Gas Agency Code: 2021      Date of Invoice: 2021-04-11
Gas Agency Name: HP Gas   Gas Agency Phone: 9484938493
Connection number: 2023   Customer Name: Toshi
Booking Date: 2021-06-07   Customer Contact:9869504958
-----
```

```
Declaration Console X
<terminated> assignment [Java Application] C:\Users\Sam Methuselah\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_15.0.2.v20210201-
Amount: 1000
Refund: 50.0
Total Amount: 950.0
-----
Delivery Person Details
Name:Kamal
Number: 3940595848
Delivery date: 2021-10-12
-----
To exit Press '1' else Press any other number
1
To Display number of cylinders delivered to a particular area at a given month
Enter Area:
park
Enter Month:
8
No. of cylinders delivered at park on the month of 8 is: 0
To Display number of cylinders delivered late in a specified month
Enter Month:
9
No. of cylinders delivered late in the month of 9 is: 0
Details of Single Cylinder purchasers:
Name:Sam          Mobile: 9685968594          Connection Number: 2021
Name:Mansi        Mobile: 9586958695          Connection Number: 2022
Name:Toshi        Mobile: 9869504958          Connection Number: 2023
To Display the customer details delivered by a particular delivery person.
Enter Deliver Person Name:
Kamal
Details of Cylinder Holders who got cylinder delivered by Kamal
Name: Mansi        Street: thomas          Area: town
Name: Toshi        Street: newton          Area: park
ALL REPORTS
DELIVERED BOOKINGS
Connection Number :2021 Booking Date: 2021-05-16          Amount: 1000.0
Connection Number :2023 Booking Date: 2021-06-07          Amount: 1000.0
PENDING BOOKINGS
CANCELLED BOOKINGS
Connection Number :2022 Booking Date: 2021-06-06          Amount: 1000.0
DELIVERY PEOPLE
Name: Rakesh Phone: 9875848594
Name: Kamal Phone: 9048594939
|
```