

ASSIGNMENT-2

COURSE CODE-CS261

COURSE NAME-OBJECT ORIENTED DESIGN AND
PROGRAMMING

Q1) Create a class employee with public Id, public Name and public function to take Employee Address, public function to take input employee position in company , function public show() to print all the employee details. There will be 20 employees .

1) Make use of default constructor to input Name and Id

```
import java.util.*;
class employee
{
    public int id;
    public String name;
    public String address;
    public String position;

    public employee()
    {
        id=201851014;
        name="AMAN KUMAR KANOJIA";
    }
    public void Address(String address)
    {
        this.address=address;
    }
    public void Position(String position)
    {
        this.position=position;
    }
    public void show()
    {
        System.out.println();
        System.out.println("NAME OF THE EMPLOYEE IS : "+name);
    }
}
```

```

        System.out.println("ID OF THE EMPLOYEE IS : "+id);
        System.out.println("ADDRESS OF THE EMPLOYEE IS : "+address);
        System.out.println("POSITION OF THE EMPLOYEE IS : "+position);
        System.out.println();
    }
}
class main1
{
    public static void main(String args[])
    {
        employee e=new employee();
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter the address of the employee");
        String a=sc.nextLine();
        System.out.println("Enter the position of the employee");
        String p=sc.nextLine();
        e.Address(a);
        e.Position(p);
        e.show();
    }
}

```

INPUT-

```

Enter the address of the employee
W/6 PRAKASH LOK B-BLOCK INDIRA NAGAR LUCKNOW
Enter the position of the employee
MANAGER

```

OUTPUT-

```

NAME OF THE EMPLOYEE IS : AMAN KUMAR KANOJIA
ID OF THE EMPLOYEE IS : 201851014
ADDRESS OF THE EMPLOYEE IS : W/6 PRAKASH LOK B-BLOCK INDIRA NAGAR LUCKNOW
POSITION OF THE EMPLOYEE IS : MANAGER

```

2) Make use of parameterised constructor to input Name and Id.

```

import java.util.*;
class employee
{
    public int id;
    public String name;
    public String address;
}

```

```

    public String position;

    public employee(int id,String name)
    {
        this.id=id;
        this.name=name;
    }
    public void Address(String address)
    {
        this.address=address;
    }
    public void Position(String position)
    {
        this.position=position;
    }
    public void show(int e)
    {
        System.out.println();
        System.out.println(" Detail of Employee : "+e);
        System.out.println("NAME OF THE EMPLOYEE IS : "+name);
        System.out.println("ID OF THE EMPLOYEE IS : "+id);
        System.out.println("ADDRESS OF THE EMPLOYEE IS : "+address);
        System.out.println("POSITION OF THE EMPLOYEE IS : "+position);
        System.out.println();
    }
}
class main
{
    public static void main(String args[])
    {
        employee arr[]=new employee[20];
        for(int i=0;i<20;i++)
        {
            Scanner sc=new Scanner(System.in);
            System.out.println("Enter the name of the employee");
            String n=sc.nextLine();
            System.out.println("Enter the id of the employee");
            int d=sc.nextInt();
            sc.nextLine();
            System.out.println("Enter the address of the employee");
            String a=sc.nextLine();
            System.out.println("Enter the position of the employee");
            String p=sc.nextLine();
            arr[i]=new employee(d,n);
            arr[i].Address(a);
        }
    }
}

```

```

        arr[i].Position(p);
    }
    for(int j=0;j<20;j++)
    {
        arr[j].show(j+1);
    }
}

```

3) Make Id private and access Id from public function show() and see if Id can be accessed from show().

ANS. YES, if we make id private it can be accessed by the public function show because id is the instance variable and the function show is also instance function, which means private id cannot be accessed by outside the class.

4) Make Id private and show() private and access Id from show() and see if Id can be accessed from show().

ANS. NO, we cannot access private id from private show function because show function cannot be called by outside the class because of private access specifier. Although if we make main function in the same class where private id is defined then we can access them.

Q2) Create a Class Manager which will have a function check() which will check if a particular employee is there or not- this can be done using employee Id .

```

import java.util.*;
class employee
{
    public int id;
    public String name;
    public String address;
    public String position;

    public employee(int id,String name)
    {
        this.id=id;
        this.name=name;
    }
}

```

```

    public void Address(String address)
    {
        this.address=address;
    }
    public void Position(String position)
    {
        this.position=position;
    }
    public void show(int e)
    {
        System.out.println();
        System.out.println("Details of Employee : "+e);
        System.out.println("NAME OF THE EMPLOYEE IS : "+name);
        System.out.println("ID OF THE EMPLOYEE IS : "+id);
        System.out.println("ADDRESS OF THE EMPLOYEE IS : "+address);
        System.out.println("POSITION OF THE EMPLOYEE IS : "+position);
        System.out.println();
    }
}
class Manager
{

    public void check(int d,employee arr[])
    {
        int flag=0;

        for(int i=0;i<20;i++)
        {
            if(arr[i].id==d)
            {
                flag=1;

            }

        }
        if(flag==1)
        {
            System.out.println("Employee of the given id is present");
        }
        else
        {
            System.out.println("Employee of the given id is not present");
        }
    }
}

```

```

class main2
{
    public static void main(String args[])
    {
        employee arr[]=new employee[20];
        for(int i=0;i<20;i++)
        {
            Scanner sc=new Scanner(System.in);
            System.out.println("Enter the name of the employee");
            String n=sc.nextLine();
            System.out.println("Enter the id of the employee");
            int d=sc.nextInt();
            sc.nextLine();
            System.out.println("Enter the address of the employee");
            String a=sc.nextLine();
            System.out.println("Enter the position of the employee");
            String p=sc.nextLine();
            arr[i]=new employee(d,n);
            arr[i].Address(a);
            arr[i].Position(p);
        }
        Scanner st=new Scanner(System.in);
        System.out.println("Enter the id to be search");
        int t=st.nextInt();
        Manager x=new Manager();
        x.check(t,arr);
    }
}

```

1) Make Id of employee class private and see if it can be accessed from function check().

ANS. NO ,id cannot be accessed by check function because check function is outside the employee class.

2) Using the employee Id(public) print the employee details in a function details() , details() function will be in manager class.

```

import java.util.*;
class employee
{
    public int id;
    public String name;
    public String address;
    public String position;
}

```

```

    public employee(int id,String name)
    {
        this.id=id;
        this.name=name;
    }
    public void Address(String address)
    {
        this.address=address;
    }
    public void Position(String position)
    {
        this.position=position;
    }
    public void show()
    {
        System.out.println();
        System.out.println("Details of Employee ");
        System.out.println("NAME OF THE EMPLOYEE IS : "+name);
        System.out.println("ID OF THE EMPLOYEE IS : "+id);
        System.out.println("ADDRESS OF THE EMPLOYEE IS : "+address);
        System.out.println("POSITION OF THE EMPLOYEE IS : "+position);
        System.out.println();
    }
}
class Manager
{

    public void check(int d,employee arr[])
    {
        int flag=0;

        for(int i=0;i<20;i++)
        {
            if(arr[i].id==d)
            {
                flag=1;
            }
        }

        if(flag==1)
        {
            System.out.println("Employee of the given id is present");
        }
    }
}

```

```

else
{
    System.out.println("Employee of the given id is not present");
}
}
public void details(int n,employee arr[])
{
    for(int j=0;j<20;j++)
    {
        if(n==arr[j].id)
        {
            arr[j].show();
        }
    }
}
}
class main3
{
    public static void main(String args[])
    {
        employee arr[]=new employee[20];
        for(int i=0;i<20;i++)
        {
            Scanner sc=new Scanner(System.in);
            System.out.println("Enter the name of the employee");
            String n=sc.nextLine();
            System.out.println("Enter the id of the employee");
            int d=sc.nextInt();
            sc.nextLine();
            System.out.println("Enter the address of the employee");
            String a=sc.nextLine();
            System.out.println("Enter the position of the employee");
            String p=sc.nextLine();
            arr[i]=new employee(d,n);
            arr[i].Address(a);
            arr[i].Position(p);
        }
        Manager x=new Manager();
        Scanner st=new Scanner(System.in);
        System.out.println("Enter the id to be search");
        int t=st.nextInt();
        x.check(t,arr);
        System.out.println("Enter the id to get the details of the employee");
        int f=st.nextInt();
        x.details(f,arr);
    }
}

```



```
    }  
}
```

3) Make the show() in class employee private and access show() from function details() and see if it can be accessed.

ANS. NO, it cannot be accessed because private function cannot be accessed from outside the class.

Q3) Write a program to take 2 strings from user and check if those 2 are equals.

```
import java.util.*;  
class compare_string  
{  
    public static void main(String args[])  
    {  
        String s1,s2;  
        Scanner sc=new Scanner(System.in);  
        System.out.println("Enter the first string");  
        s1=sc.nextLine();  
        System.out.println("Enter the second string");  
        s2=sc.nextLine();  
        boolean b=s1.equals(s2);  
        if(b==true)  
        {  
            System.out.println("Given two string are equal");  
        }  
        else  
        {  
            System.out.println("Given two strings are not equal");  
        }  
    }  
}
```

INPUT-

```
Enter the first string  
nitin  
Enter the second string  
nitin  
Given two string are equal
```

OUTPUT-

Q4) Write a program to create 2 strings using new keyword and concatenate the 2 strings

```

import java.util.*;
class concat
{
    public static void main(String args[])
    {
        String s1,s2;
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter the first string");
        s1=sc.nextLine();
        System.out.println("Enter the second string");
        s2=sc.nextLine();
        String s3=new String(s1);
        String s4=new String(s2);
        String s5=s3.concat(s4);
        System.out.println("After concatenating the string : "+s5);
    }
}

```

INPUT- Enter the first string
 Utkarsh
 Enter the second string
 Rastogi

OUTPUT - After concatenating the string : UtkarshRastogi

Q5) Write a program to convert char array to String and print the string.

```

import java.util.*;
class convert
{
    public static void main(String args[])
    {
        int n;
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter the no. of character to be entered in character array");
        n=sc.nextInt();
        char arr[]=new char[n];
        System.out.println("Enter the characters one by one");
        for(int i=0;i<n;i++)
        {
            char c=sc.next().charAt(0);
            arr[i]=c;
        }
        String s=new String(arr);
        System.out.println("char array after converting it to string is : ");
        System.out.println(s);
    }
}

```

```
}  
}
```

INPUT-

```
Enter the no. of character to be entered in character array  
5  
Enter the characters one by one  
R  
o  
h  
i  
t  
char array after converting it to string is :  
Rohit
```

OUTPUT-

Q6) Write a program to take input string a from user and also input string b from user and check if b is a substring of a , Example String a = computer, String b= put , so b is a substring of a.

```
import java.util.*;  
import java.lang.String;  
class substring  
{  
    public static void main(String args[])  
    {  
        Scanner sc=new Scanner(System.in);  
        System.out.println("Enter the first string");  
        String s1=sc.nextLine();  
        System.out.println("Enter the second string to check whether it,s substring or not");  
        String s2=sc.nextLine();  
        if(s1.contains(s2))  
        {  
            System.out.println("s2 is a substring of s1");  
        }  
        else  
        {  
            System.out.println("s2 is not a substring of s1");  
        }  
    }  
}
```

INPUT-

```
Enter the first string  
prakhar  
Enter the second string to check whether it's substring or not  
khar
```

OUTPUT-

```
s2 is a substring of s1
```

Q7) Write a program to make use of compareTo() functions in string and see the results.

```
import java.util.*;
import java.lang.String;
class compare
{
    public static void main(String args[])
    {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter the first string");
        String s1=sc.nextLine();
        System.out.println("Enter the Second string");
        String s2=sc.nextLine();
        int n=s1.compareTo(s2);
        if(n==0)
        {
            System.out.println("Strings are equal");
        }
        else if(n>0)
        {
            System.out.println("Strings are not equal and the difference in the ASCII
value of the first mismatched character is : "+n);
        }
        else if(n<0)
        {
            System.out.println("Strings are not equal and the difference in the ASCII
value of the first mismatched character is : "+n);
        }
    }
}
```

INPUT-

```
Enter the first string
sanjay
Enter the Second string
aman
```

OUTPUT-

```
Strings are not equal and the difference in the ASCII value of the first mismatched character is : 18
```

NAME-AMAN KUMAR KANOJIA
ROLL NO.-201851014
SECTION-1
GROUP-1A