

JAVA – EXTERNAL LEARNING 1

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1) Write a method that returns the longest common prefix of two strings. For example, the longest common prefix of **amplifier** and **amplitude** is **ampl**.

The method is: **static** String prefix(String s1, String s2)

If the two strings don't have a common prefix, the method returns an empty string. Write a **main** method that prompts the user to enter two strings and displays their longest common prefix.

One.java

```
import java.util.Scanner;

public class One {

    public static String prefix (String s1, String s2) {
        int i, j;
        String res = "";
        String bigsString, smallsString, temp;
        boolean prefixAvailable;

        if (s1.length() > s2.length()) {
            bigsString = s1;
            smallsString = s2;
        }
        else {
            bigsString = s2;
            smallsString = s1;
        }

        prefixAvailable = false;
        for (i=0; i<smallsString.length(); i++) {
            temp = smallsString.substring(0, i+1);

            if (bigsString.contains(temp)) {
                prefixAvailable = true;
            }
        }
    }
}
```

```
        res = temp;
    }
}
if (prefixAvailable)
    return res;
else
    return "";
}

public static void main(String[] args)
{
    Scanner input = new Scanner(System.in);
    String s1, s2;
    String result = new String();

    System.out.print("\n Enter 1st string: ");
    s1 = input.nextLine();
    System.out.print(" Enter 2nd string: ");
    s2 = input.nextLine();

    result = prefix(s1, s2);

    System.out.println("\n Longest Common Prefix = " + result + "\n");

    input.close();
}
}
```

OUTPUT:

```
Windows PowerShell
PS C:\Users\Chiran\Desktop\ONLINE CLASS\SEM 5\JAVA LAB\EL1> javac One.java
PS C:\Users\Chiran\Desktop\ONLINE CLASS\SEM 5\JAVA LAB\EL1> java One

Enter 1st string: amplitude
Enter 2nd string: amplifier

Longest Common Prefix = ampli

PS C:\Users\Chiran\Desktop\ONLINE CLASS\SEM 5\JAVA LAB\EL1> java One

Enter 1st string: monkey
Enter 2nd string: montana

Longest Common Prefix = mon

PS C:\Users\Chiran\Desktop\ONLINE CLASS\SEM 5\JAVA LAB\EL1> █
```

2) Write a program that prompts the user to enter aadhar number in the format DDDD DDDD DDDD, where D is a digit. The program displays **Valid** for a correct aadhar number and **Invalid** otherwise.

Two.java

```
import java.util.Scanner;

public class Two {
    public static void main(String[] args)
    {
        Scanner input = new Scanner(System.in);
        String entry;
        int i, j;
        boolean itsaNum = true, itsaBlank = true;

        System.out.print("\n Enter Aadhaar Number: ");
        entry = input.nextLine();

        if (entry.length() == 14) {
            for (i=0; i<14; i++)
            {
                if (i==4 || i==9) {
                    if ( entry.charAt(i)!=' ')
                        itsaBlank = false;
                }
                else
                    if ( !digit(entry.charAt(i)) )
                        itsaNum = false;
            }

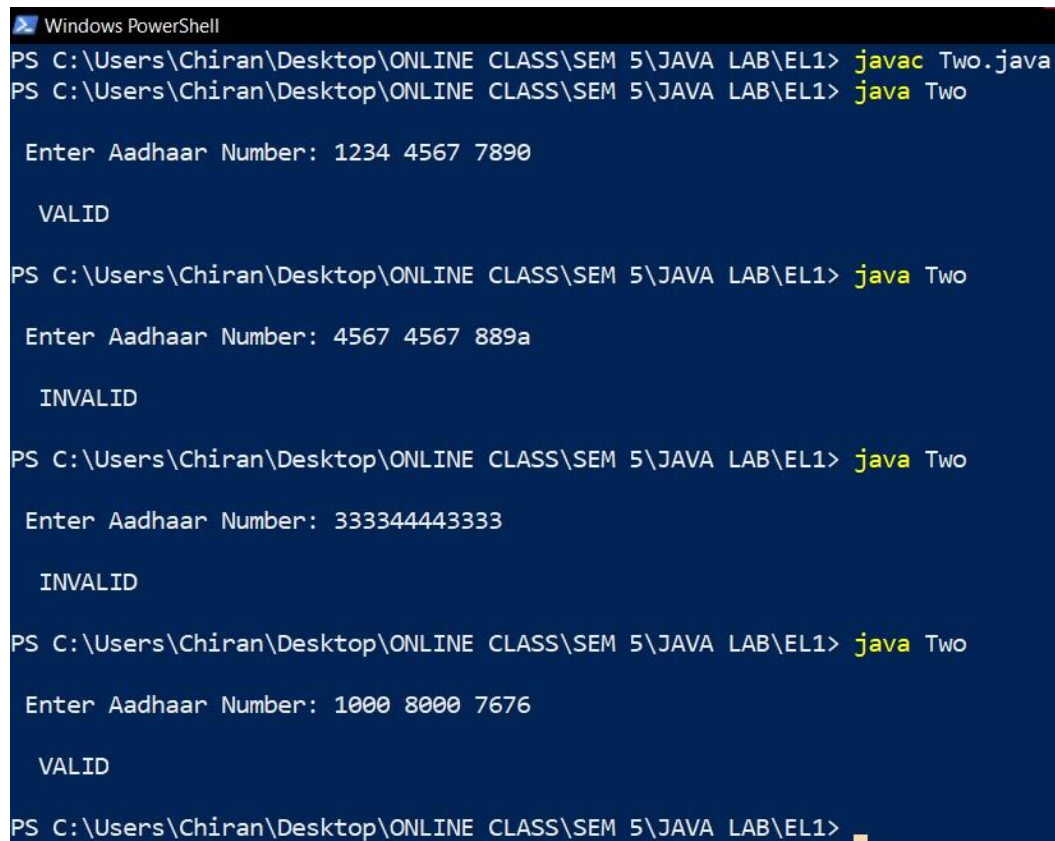
            if (itsaNum && itsaBlank)
                System.out.println("\n VALID\n");
            else
                System.out.println("\n INVALID\n");
        }
        else
            System.out.println("\n INVALID \n");
    }
}
```

```
}

public static boolean digit (char c) {
    if (c>='0' && c<='9')
        return true;
    return false;
}

}
```

OUTPUT:



```
Windows PowerShell
PS C:\Users\Chiran\Desktop\ONLINE CLASS\SEM 5\JAVA LAB\EL1> javac Two.java
PS C:\Users\Chiran\Desktop\ONLINE CLASS\SEM 5\JAVA LAB\EL1> java Two

Enter Aadhaar Number: 1234 4567 7890

VALID

PS C:\Users\Chiran\Desktop\ONLINE CLASS\SEM 5\JAVA LAB\EL1> java Two

Enter Aadhaar Number: 4567 4567 889a

INVALID

PS C:\Users\Chiran\Desktop\ONLINE CLASS\SEM 5\JAVA LAB\EL1> java Two

Enter Aadhaar Number: 333344443333

INVALID

PS C:\Users\Chiran\Desktop\ONLINE CLASS\SEM 5\JAVA LAB\EL1> java Two

Enter Aadhaar Number: 1000 8000 7676

VALID

PS C:\Users\Chiran\Desktop\ONLINE CLASS\SEM 5\JAVA LAB\EL1> █
```