Q1. Explain String class in Java Programming?

In java String class is a built in class which is used to handle text or alphanumeric values. It can store maximum 2kb of the text

String(Immutable): if our content are fixed and we wont Change then we should go for String Class **Example:** Adhar No, Enrollment No, PAN CARD NO String class Provide SCP(String Constant Pool) for Memory Management String class can have in built constructor or methods **String class Constructor** 1. String() 2. String(String) 3. String(char []) 4. String(char[],int start,int no) 5. String(byte[],int start,int no) class S1{ public static void main(String args[]){

```
String a=new String();
System.out.println(a);
String b=new String("Cybrom");
System.out.println(b);
char arr[]={'w','e','l','c','o','m','e'};
String c=new String(arr);
System.out.println(c);
String d=new String(arr,3,4);
```

```
System.out.println(d);
 byte b1[]={65,66,67,68,69,70};
 String e=new String(b1,0,3);
 System.out.println(e);
 String f="welcome to bhopal";
 System.out.println(f);
}
}
Q2. Explain String class methods in java Programming?
1. charAt()
2. compareTo()
3. concat()
4. contains()
5. endsWith()
6. startsWith()
7. equals()
8. equalsIgnoreCase()
9. indexOf()
10. lastIndexOf()
11. isEmpty()
12. length()
13. split()
14. substring()
15. toCharArray()
16. toLowerCase()
17. toUpperCase()
```

18. toString()19. trim()

20. valueOf()

StringBuffer(Mutable): if our content are not fixed and we want to perform some modification but thread safety is required then we should go for StringBuffer.

StringBuilder(Mutable):if our content are not fixed and we want to perform some modification but thread safety is not required then we should go for StringBuilder.

Q1. Explain String charAt() method in java programming? Ans: It is used to extract character by character from the specified index

Syntax:

char charAt(int index)

Example:

Write a java program to print characters of the given String

Enter Any String: WELCOME

W

Ε

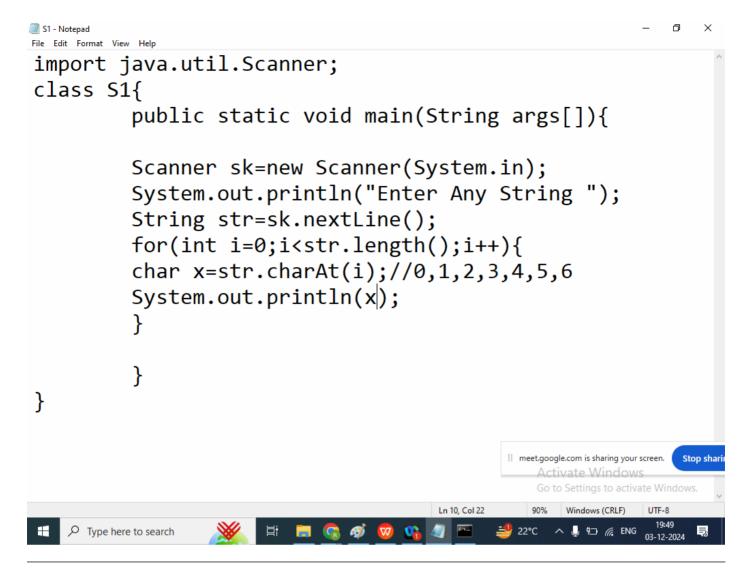
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C

 \mathbf{O}

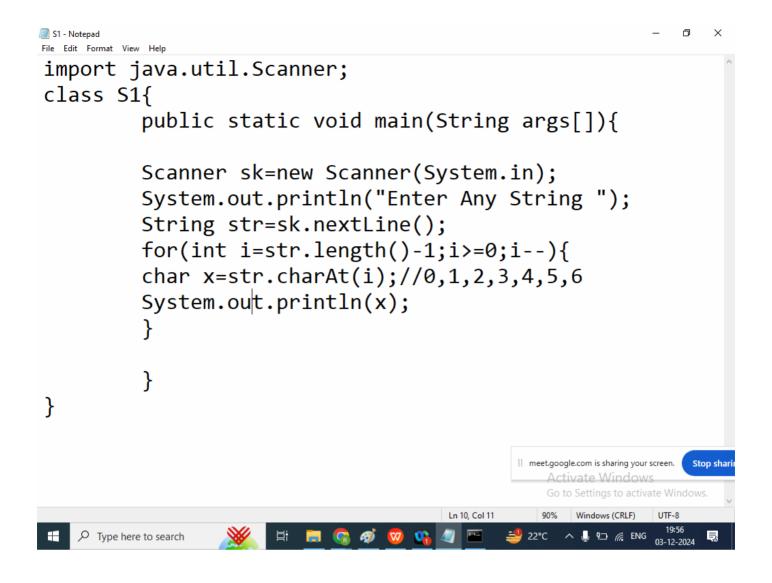
M

Ε



Q2. Write a java program to print reverse character of the given String?

Enter Any String: ABCDE
E
D
C
B
A



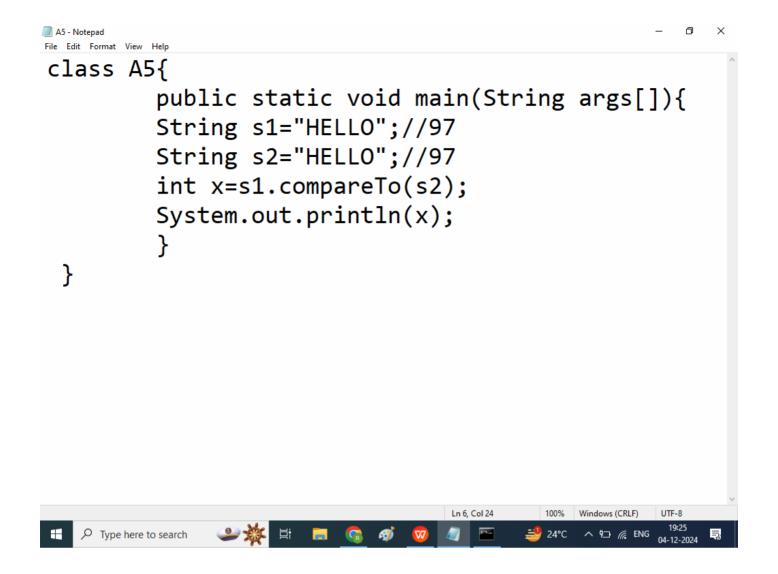
Q2. Explain String class compareTo() method in java programming?

Ans: It is used to compare two strings in alphabetically order ()

```
Syntax:
int compareTo(Strint)
Example:
String s1="A";
String s2="a";
```

Returning value of CompareTo method

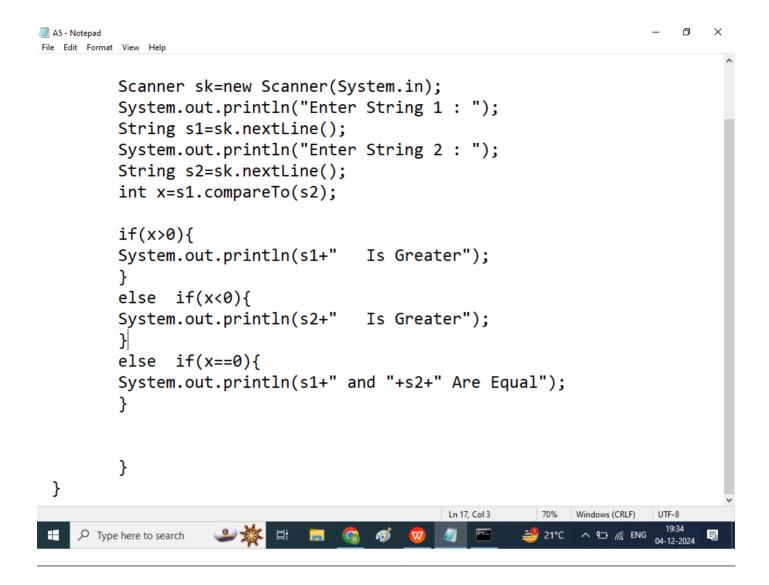
- 1. Return Positive Value if S1 greater than s2
- 2. Return Negative Value if S1 less than s2
- 3. Return Zero if Both String are equal



Q2. Write a java program to check which one String is greater on the basis order of the character?

Enter String 1: naman

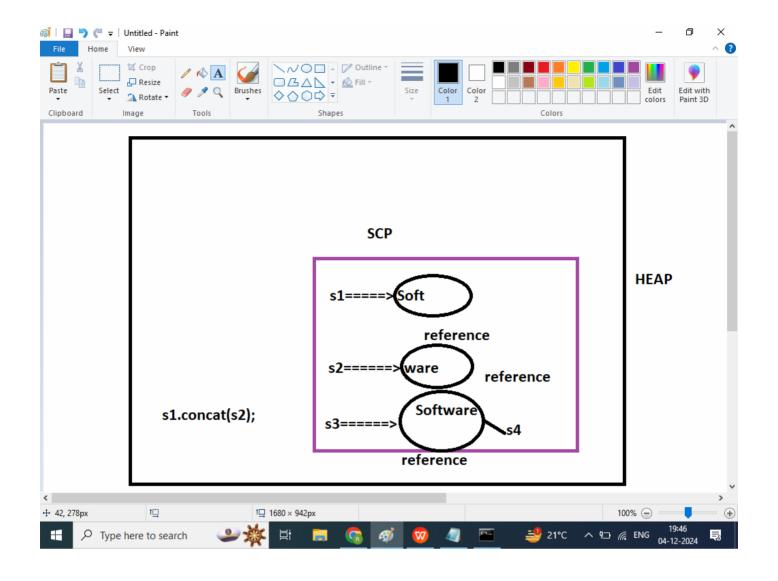
Enter String 2: madam

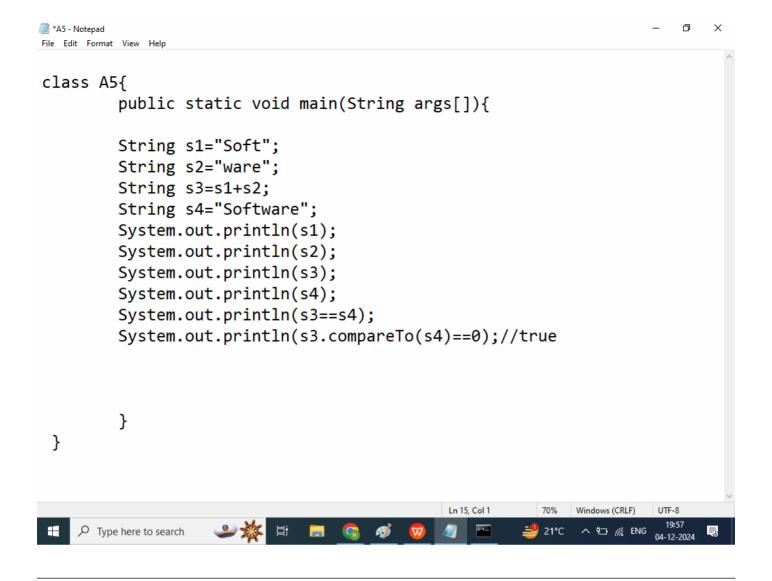


Q2. Explain String class concat() method? Ans: It is used to combine two string

Syntax: String concat(String)

```
Example:
String s1="Soft";
String s2="ware";
String s3=s1.concat(s2);//Software
```





Homework:

Q2. What is difference between concat method and + Operators?

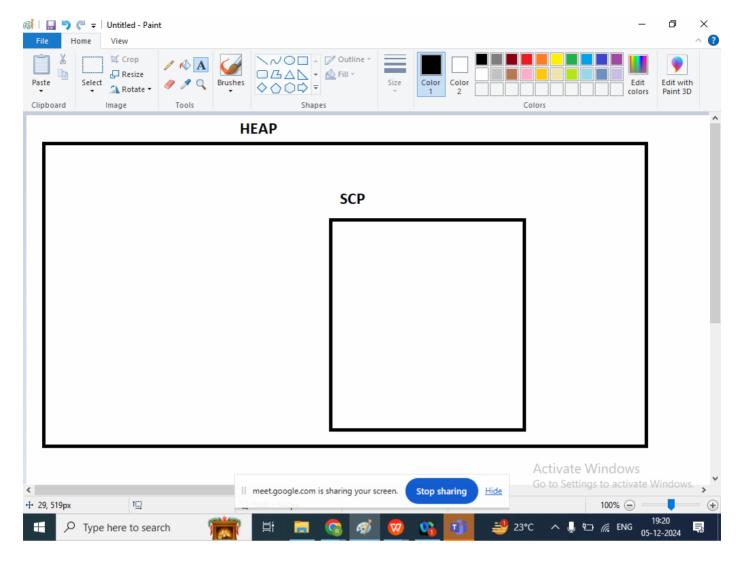
Q1.Explain String Constant Pool(SCP) in java Programming?

Ans: The String Constant Pool in java is a special memory area in the java heap where String litrals are stored

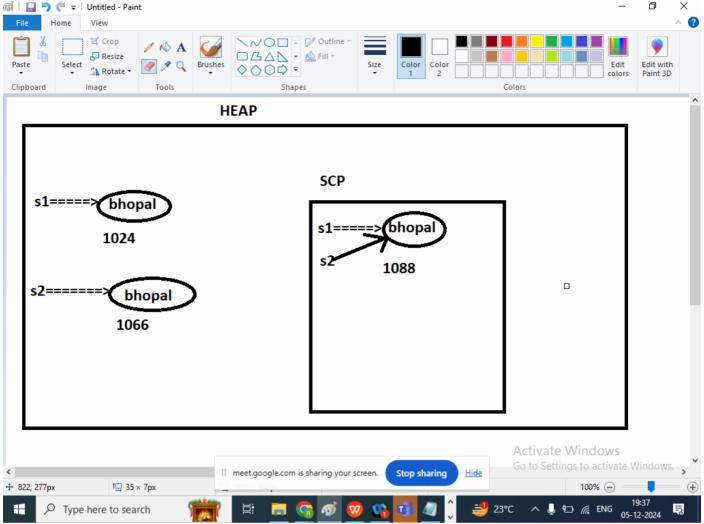
This Mechanism is a part of Java Memory Utilization for Strings, as String are Immutable class in java Once we create an object we cannot perform any modification.

Key features of SCP:

1. Storage of String Literals

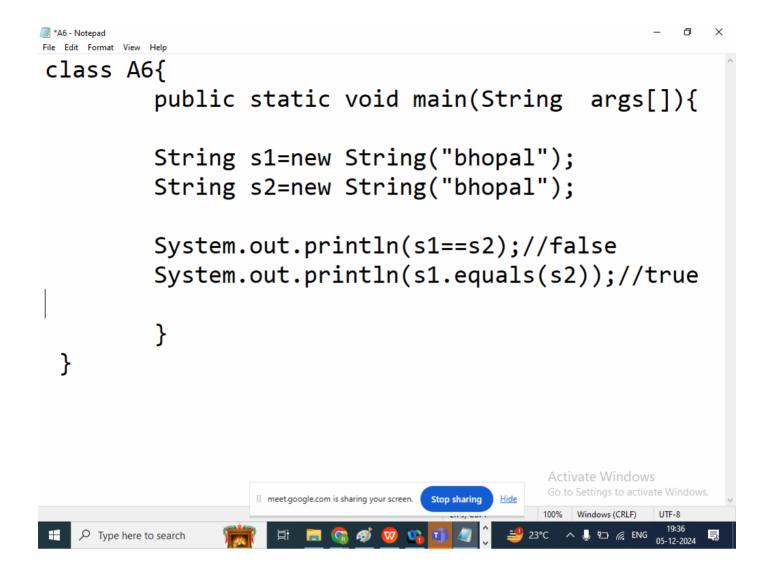


Case 1: Create an Object(String) of a Class Using new

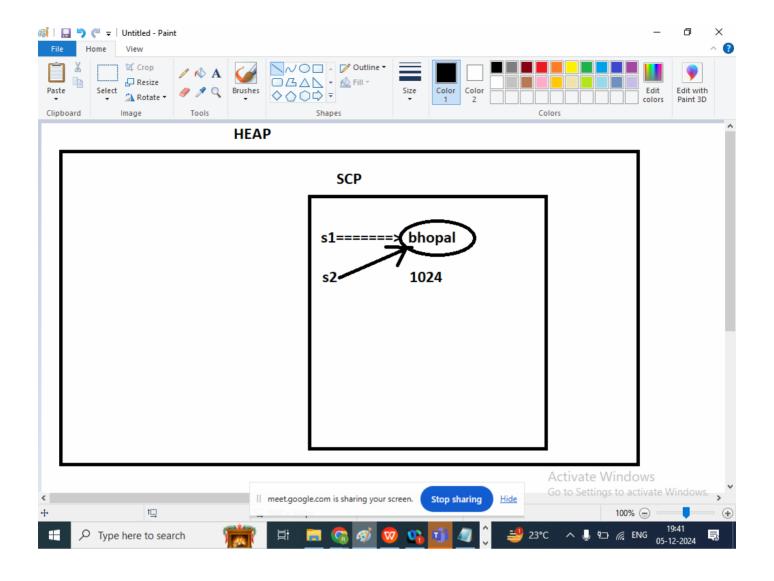


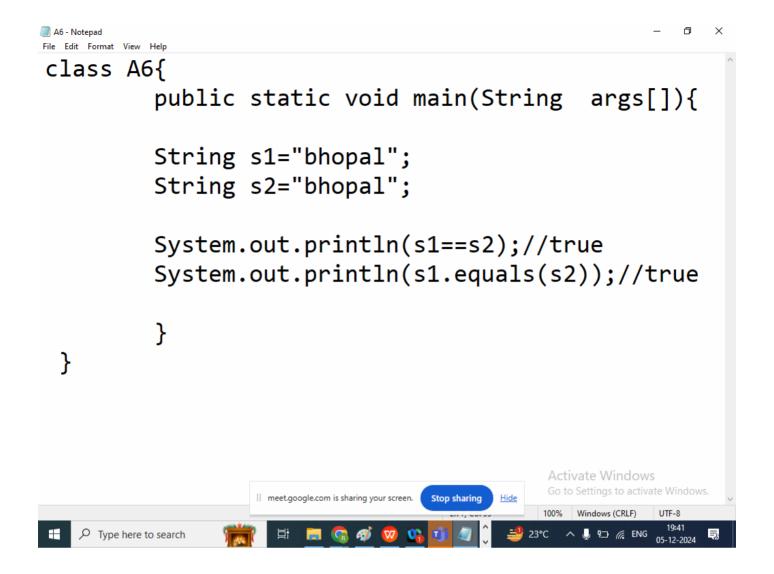
== Meant for reference compare [First check reference in heap, if Heap reference not found then it will check SCP reference]

equals meant for content compare

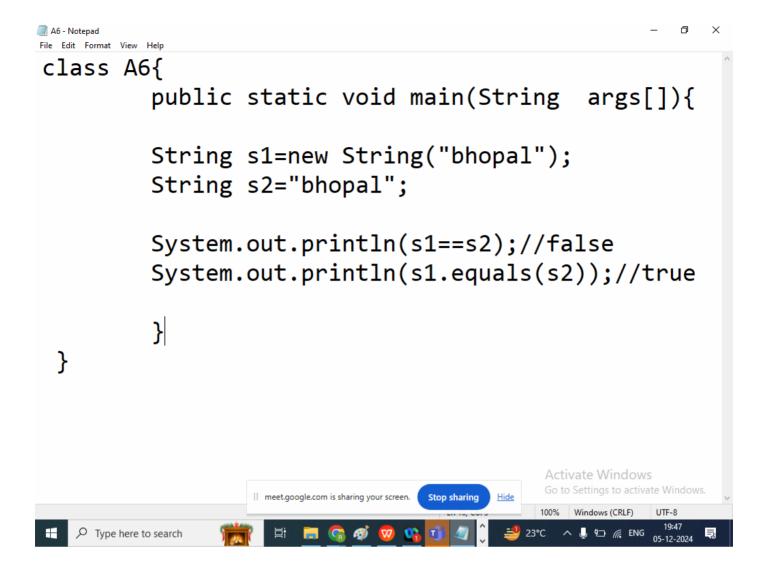


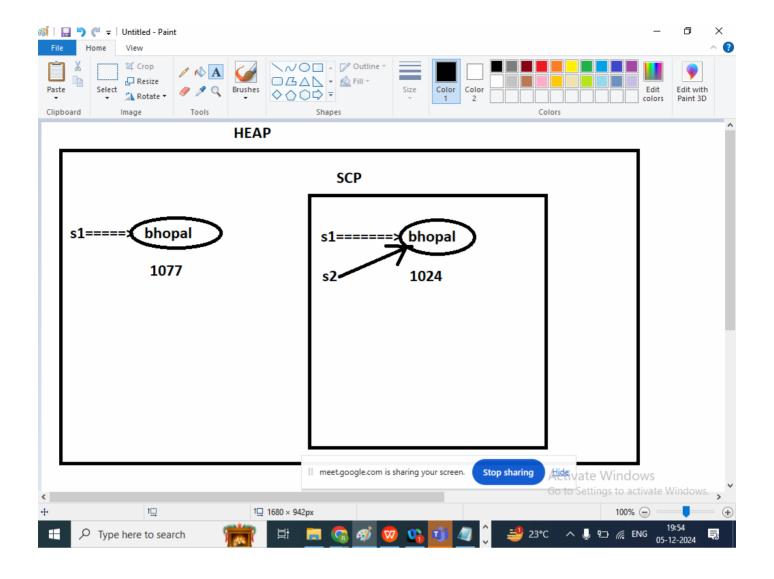
Case 2: Create an Object of String class without using new

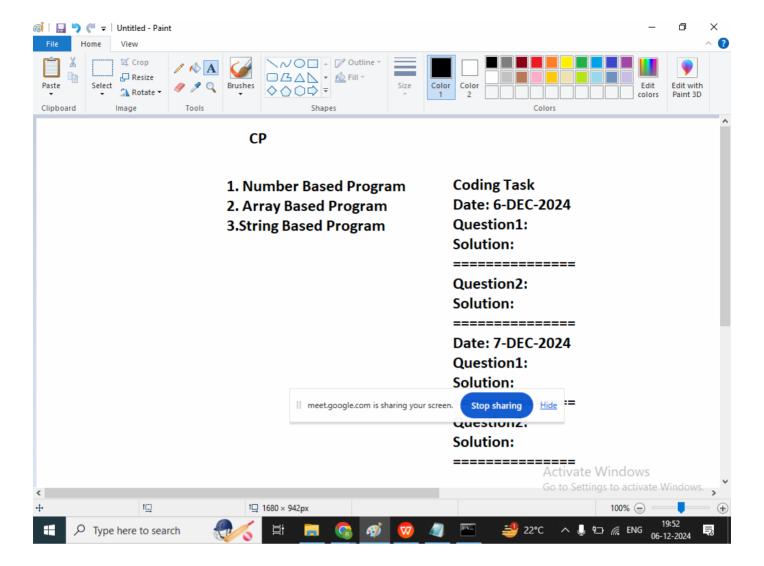




Case 3: Create One object using new keyword and another object create without new keyword





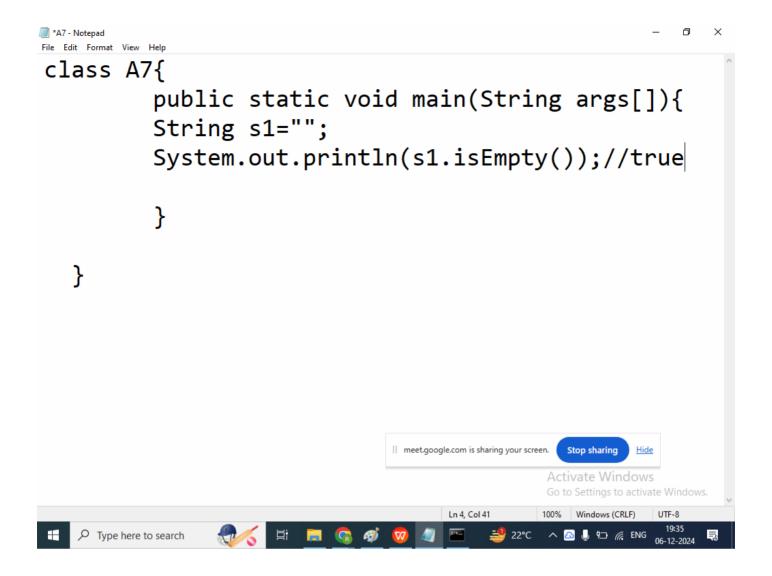


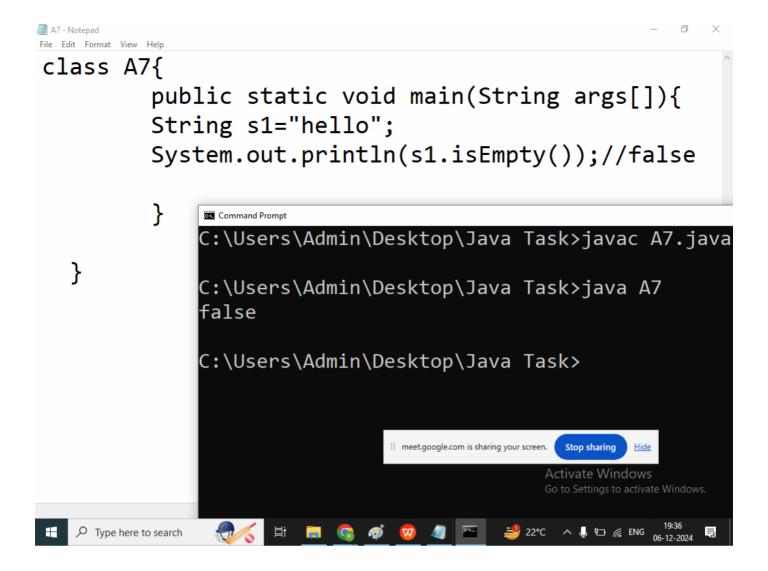
Q1. Explain String class is Empty() method in java programming?

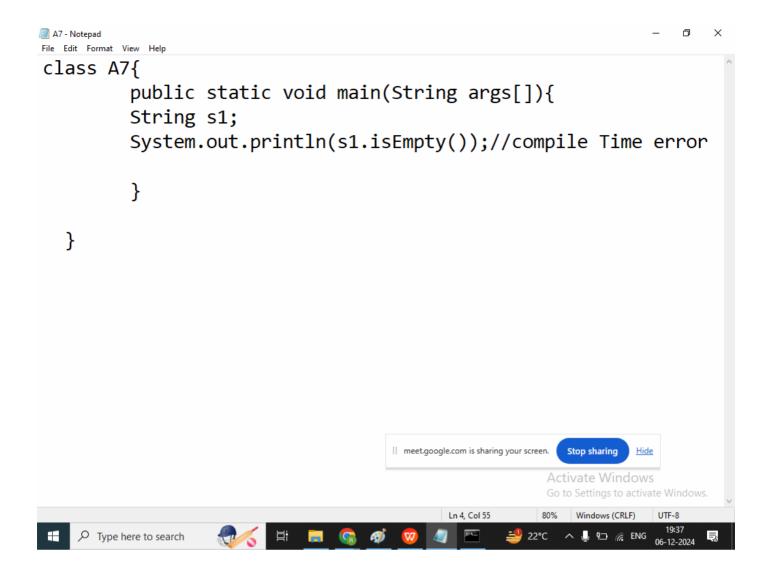
Ans: It is used to check given String is empty or not

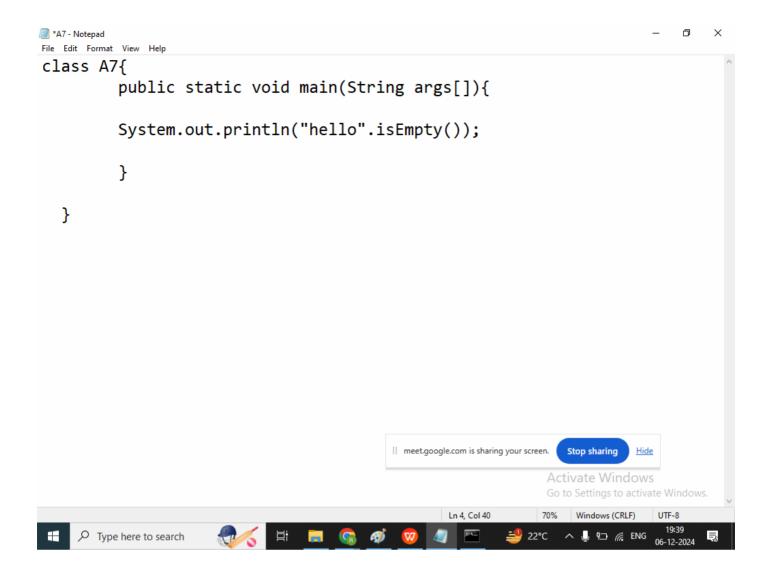
Syntax: boolean isEmpty()

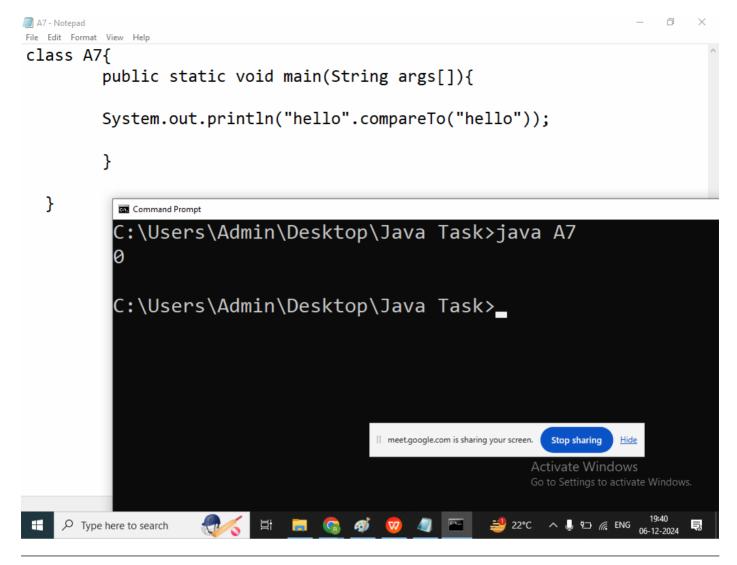
Example:









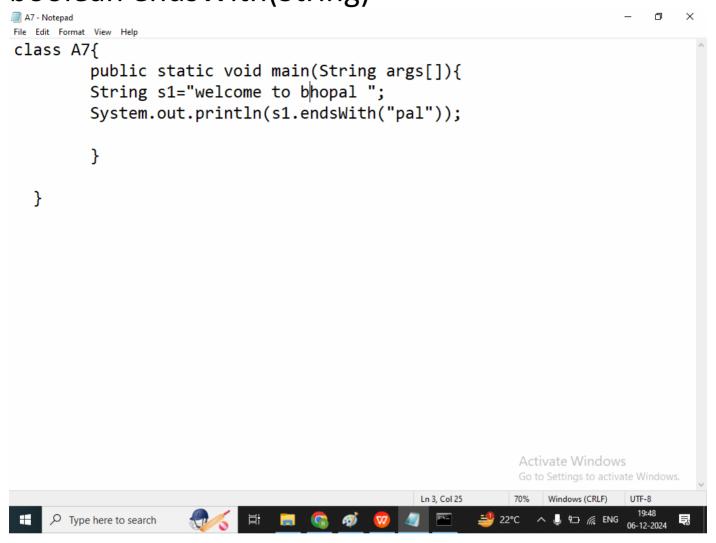


Q2. Explain String class endsWith() method in java Programming?

Ans: In java endsWith() method of the String is used to check if a given String ends with a specified suffix.

Suffix: A String to be checked at the end of the current String

Syntax: boolean endsWith(String)



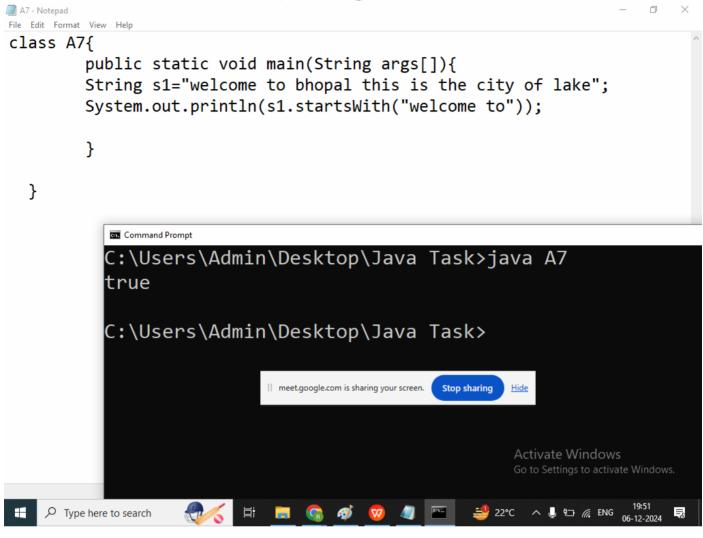
Q2. Explain String class startsWith() method in java Programming?

Ans: In java startsWith() method of the String is used to check if a given String starts with a specified prefix.

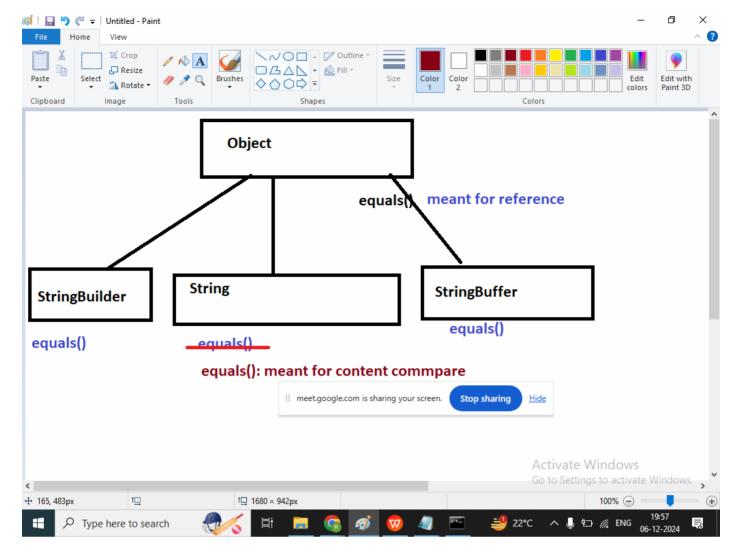
Prefix: A String to be checked at the starts of the current String

Syntax:

Boolean startsWith(String)

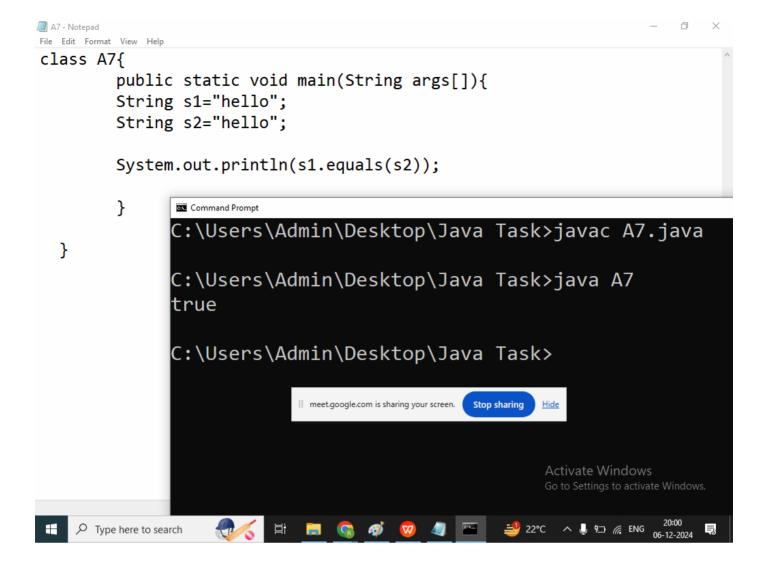


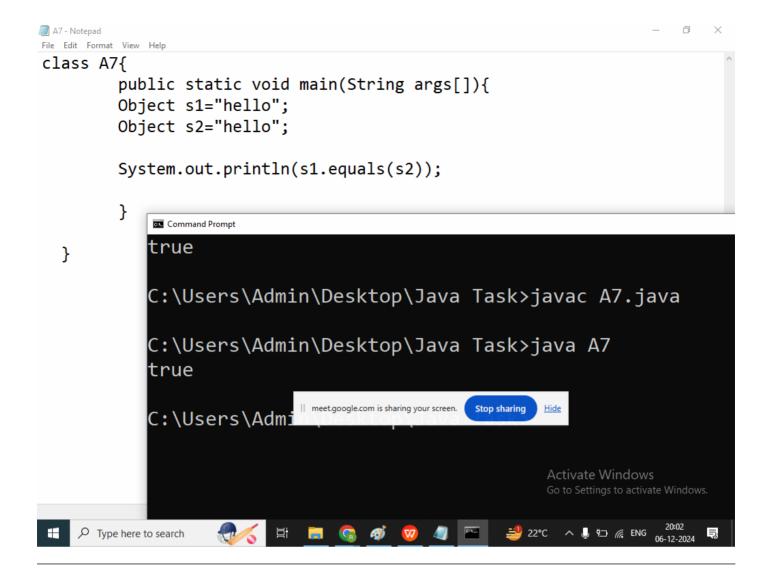
Q3. Explain String class equals() method In java Programming? Ans:

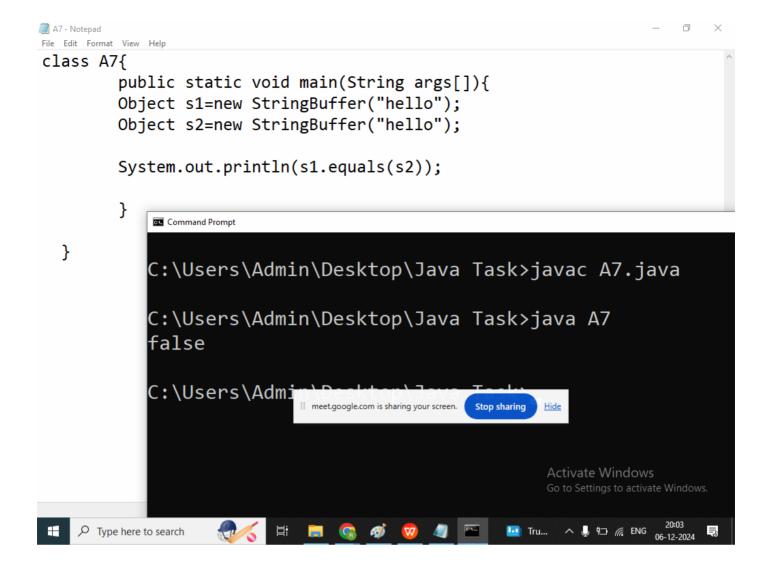


Note: equals() method belongs to Object class Object class equals method meant for reference compare, but String not satisfied this implementation So String class override this method for content

compare







Q1. Explain String class indexOf() method in java Programming?

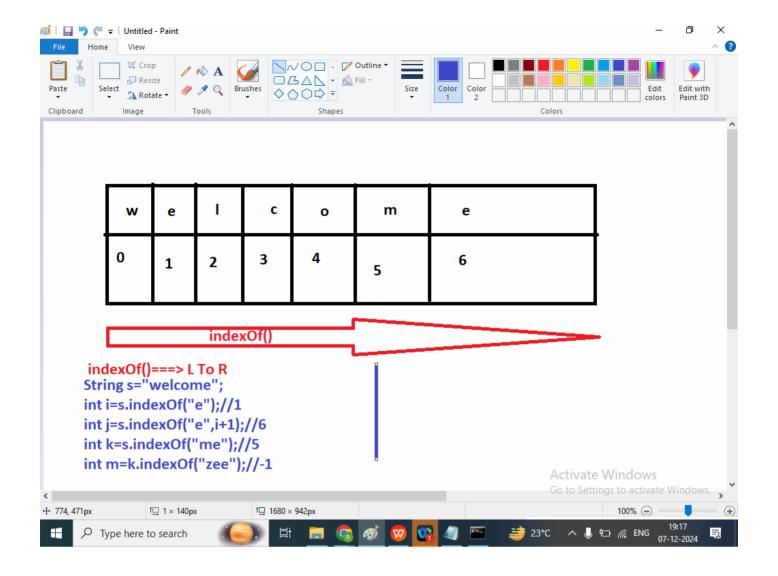
Ans:The indexOf() method is overloaded method. It will return first occurrence index position of the specified String

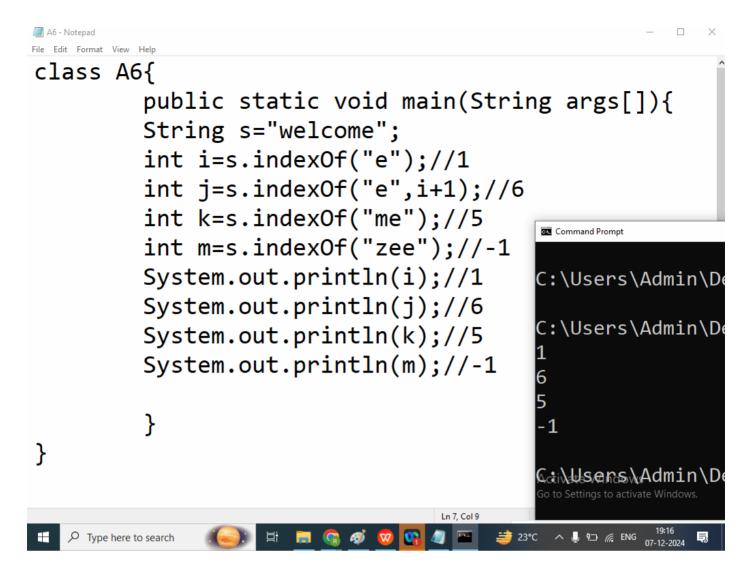
It will return -1 if given String is not found

Syntax:

int indexOf(String str);
int indexOf(String str,int start);

Example:





Q1. Explain String class lastIndexOf() method in java Programming?

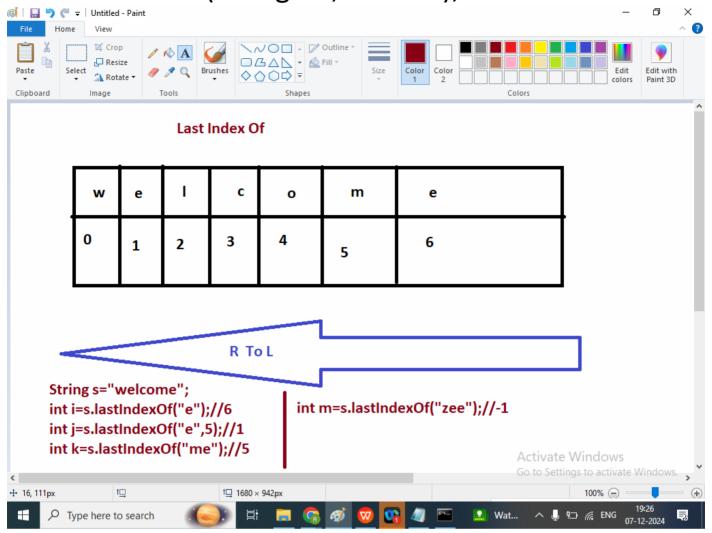
Ans:The lastIndexOf() method is overloaded method. It will return last occurrence index position of the specified String

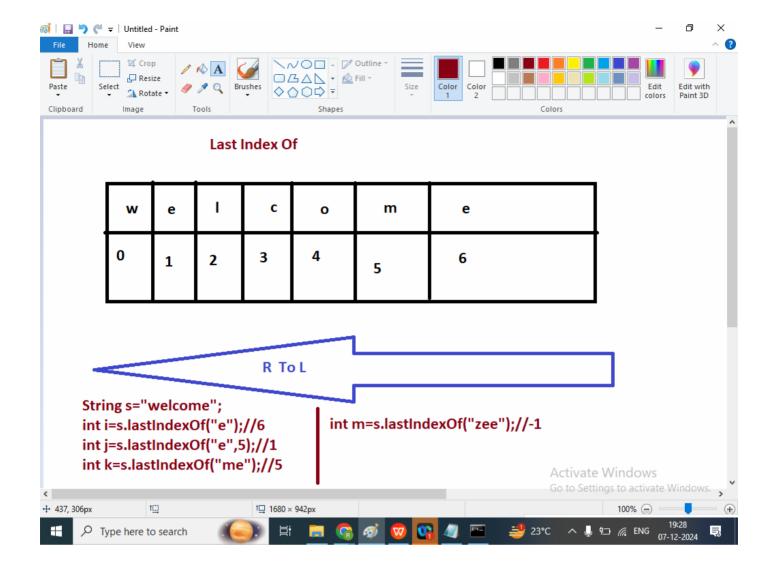
It will return -1 if given String is not found

Syntax:

int lastIndexOf(String str);

int lalstIndexOf(String str,int start);





```
A6 - Notepad
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class A6{
          public static void main(String args[]){
          String s="welcome";
          int i=s.lastIndexOf("e");//6
          int j=s.lastIndexOf("e",5);//1
          int k=s.lastIndexOf("me");//5
          int m=s.lastIndexOf("zee");//-1
          System.out.println(i);//6
          System.out.println(j);//1
          System.out.println(k);//5
          System.out.println(m);//-1
          }
}
                                               Activate Windows
                                               Go to Settings to activate Windows
                                                 Windows (CRLF)
   Type here to search
```

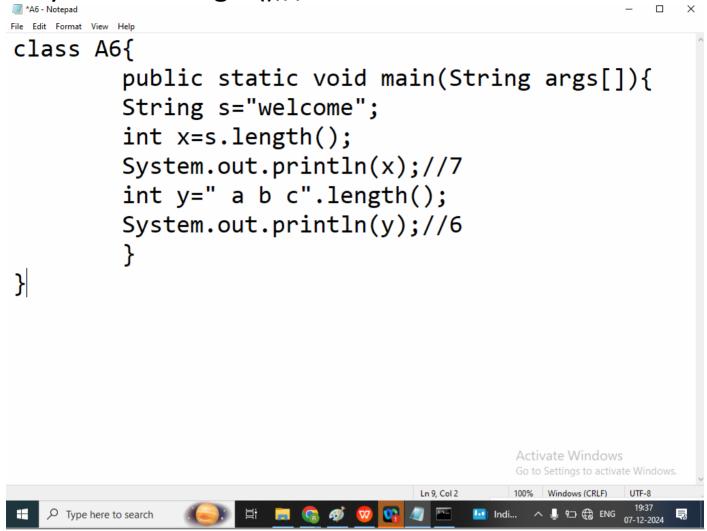
Q3. Explain String class length method in java programming?

Ans:

It will return number of characters in the String including space

```
Syntax:
int length();
Example:
String s="welcome";
int x=s.length();
```

int y="a b c".length();//5



Q4. Explain String class split() method in java programming?

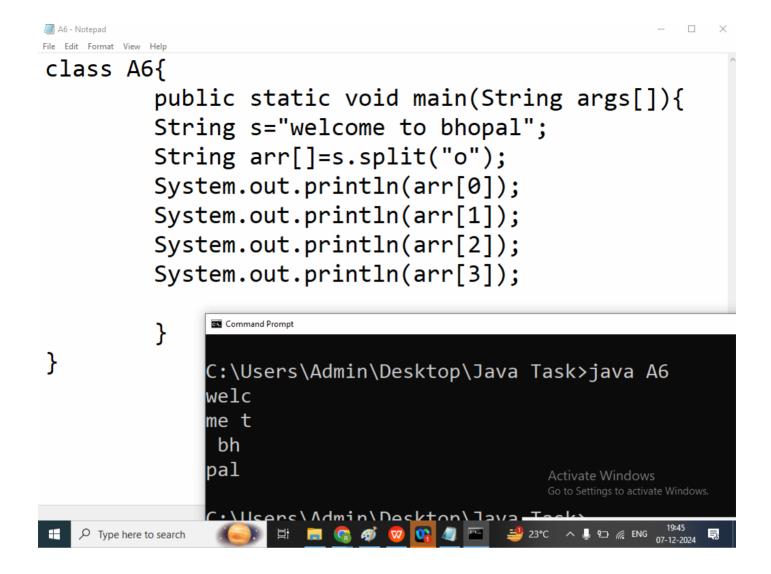
Ans:

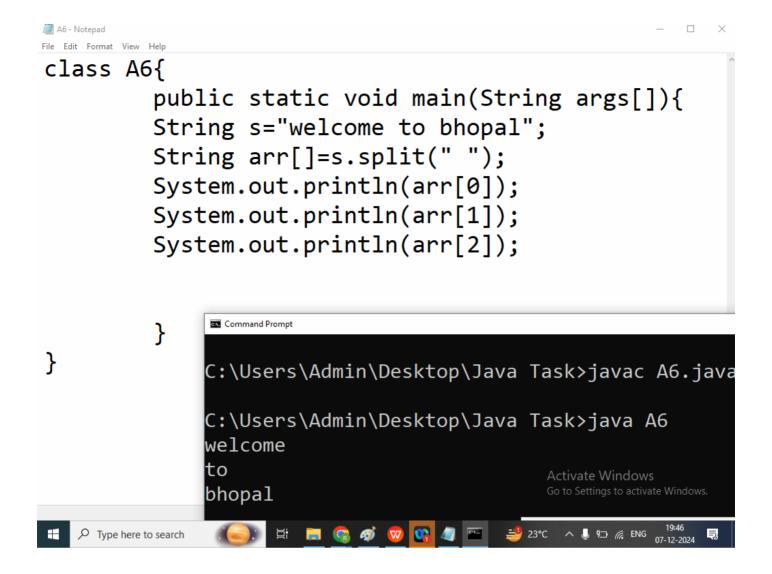
In java the split method is used to split the string on the basis of delimiter(space,).

It also split the string and convert into the array

Synatx:

String [] split(String seprator)





```
| Activate Windows
| System.out.println(arr[2]);
| System.out.prin
```

Q5. Explain substring() method in java programming?

Ans:It is used to extract string from the given String on the basis of starting or ending positions

Syntax:

String substring(int start): it will return remaining String from the specified position(starting must be include)

String substring(int start,int end):it will return substring from the specified starting position(starting must be include) and ending position(ending must be exclude end-1)
String s="welcome";
String x=s.substring(3);//come
String y=s.substring(3,5);

```
A6 - Notepad
File Edit Format View Help
class A6{
          public static void main(String args[]){
          String s="welcome";
          String x=s.substring(3);//come
          String y=s.substring(3,5);//co
          System.out.println(x);
          System.out.println(y);
                   Command Prompt
                   C:\Users\Admin\Desktop\Java Task>java A6
                   come
          }
                   CO
}
                   C:\Users\Admin\Desktop\Java Task>
                                                 Activate Windows
                                                 Go to Settings to activate Windows.
                        🥫 😘 🐠 🦁 🚳 🔤
   Type here to search
```

Q1. Explain foreach() loop in java programming? Ans: it is used to get value one by one from the array / collection object

```
Syntax:
for(data type variable : array/collection){

}
Example:
String s="welcome";
char arr[]={'w','e','l','c','o','m','e'};

for(char x:arr){
System.out.println(x);//W,e,l,c,o,m,e
}
```

Q2. Write a Java program to print sum and average of all array elements using for each loop?

```
class A6{
    public static void main(String args[]){
    int nums[]={10,20,30,40,50};

    int sum=0;
    for(int x:nums){
        sum=sum+x;
    }
}
```

```
}
   System.out.println("sum : "+sum);
   System.out.println("Average :
"+(sum/nums.length));
Q2. Explain String class to CharArray() method in java
programming?
Ans: It is used to convert given String into char Array
Syntax:
char[] toCharArray();
Example:
String s="welcome";
char arr[]=s.toCharArray();
class A6{
   public static void main(String args[]){
```

```
String s="welcome";
char arr[]=s.toCharArray();
System.out.println("Using for Loop ");
int i;
for(i=0;i<arr.length;i++){</pre>
System.out.println(arr[i]);//W,e,l,c,o,m,e
System.out.println("Using for Each Loop");
for(char x:arr){
System.out.println(x);//W,e,l,c,o,m,e
}
}
```

Q3. Write a Java Program to convert given lowerCase String into UpperCase without using pre-defined method?

Example1:

Enter Any String: welcome

Upper Case: WELCOME

Example2:

Enter Any String: WeLcOmE

Upper Case: WELCOME

```
a(97) b(98) c(99)
A(65) B(66) C(67)
32 32 32
char x='a';
import java.util.Scanner;
class A6{
   public static void main(String args[]){
   Scanner sk=new Scanner(System.in);
   System.out.println("Enter Any String:");
   String s=sk.nextLine();
```

```
String r="";
    for(int x:s.toCharArray()){
        if(x>='a'\&\&x<='z'){}
        x=x-32;
        r=r+(char)x;
        else{
        r=r+(char)x;
    }
    System.out.println(r);
}
```

Q3. Write a Java Program to convert given UpperCase String into lowerCase without using predefined method?

Example1:

Enter Any String: WELCOME

Upper Case: welcome

Example2:

```
Enter Any String: WeLcOmE
Upper Case: welcome
import java.util.Scanner;
class A6{
   public static void main(String args[]){
   Scanner sk=new Scanner(System.in);
   System.out.println("Enter Any String : ");
   String s=sk.nextLine();
   String r="";
   for(int x:s.toCharArray()){
       if(x>='A'\&\&x<='Z'){}
       x=x+32;
       r=r+(char)x;
       }
       else{
       r=r+(char)x;
   }
   System.out.println(r);
}
```

Homework for (10-DEC-2024)

Q3. Write a java program to convert a character of the String if character is UpperCase then it convert into lowerCase and if Character is lowerCase then it convert into UpperCase

Example1:

Enter Any String: WeLcOmE

Toggle Case: wElCoMe

Q1. Explain to Upper Case() and to Lower Case() method in java programming?

Ans:

toUpperCase(): It is used to convert given String into upperCase

Syntax:

String to Upper Case()

toLowerCase(): It is used to convert given String into lowerCase

Syntax:

String toLowerCase();

Homework (10-DEC-2024):

Q1. Write a Java Program to check given String is UpperCase or not?

Example1:

Enter Any String: WELCOME

true

Example2:

Enter Any String: WELCOMe

false

Example3:

Enter Any String: welCOME

False

Q3. Write a java Program to convert given sentence into Title Case?

Example1:

Enter Any String: welCOme to bhopAl this Is The

City of lake

Result: Welcome To Bhopal This Is The City Of

Lake

Q4. Write a java Program to check given String is in Title Case or Not?

Example1:

Enter Any String:

Welcome To Bhopal This Is The City Of Lake

Result: true

Example2:

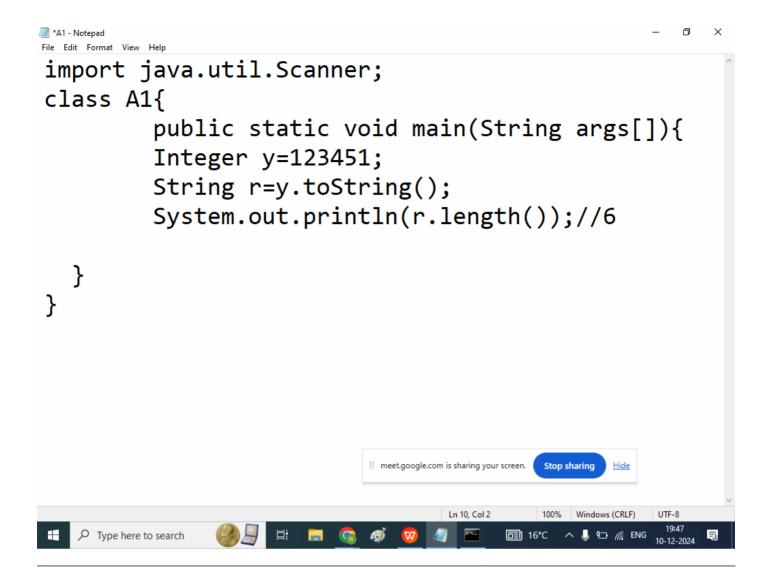
Enter Any String:

This is bhopal

Result: false

Q2. Explain toString() method in java programming?

Ans: It is used to convert any object into String Integer y=1234;// y is an object String r=y.toString(); int x=1234;// x is an variable



Q2.Explain String class valueOf() in java?
Ans: It is used to convert any types of variables into String

Syntax: static String valueOf(int) static String valueOf(float) static String valueOf(double) static String valueOf(char) static String valueOf(boolean)

```
A1 - Notepad
File Edit Format View Help
import java.util.Scanner;
class A1{
          public static void main(String args[]){
          Integer x=3345;
          String a=String.valueOf(x);
          System.out.println(a.length());
          float y=33.45f;
          String b=String.valueOf(y);
          System.out.println(b.length());
          char z='A';
          String c=String.valueOf(z);
          System.out.println(c.length());
                                   || meet.google.com is sharing your screen.
                                                      Stop sharing
                                           Ln 8, Col 17
                                                         Windows (CRLF)
    Type here to search
                                                           P⊐ / ENG
```

```
import java.util.Scanner;
class A1{
         public static void main(String args[]){
         Integer x=3345;
         String a=String.valueOf(x);
         System.out.println(a.length());
         float v=33.45f;
         String b=String.valueOf(y);
         System.out.println(b.length());
         char z='A';
         String c=String.valueOf(z);
         System.out.println(c.length());
         boolean k=true;
         String j=String.valueOf(k);
         System.out.println(j.length());
}
```

}

```
Q1. Explain String class trim() method?
Ans: It is used to remove starting and ending
space from the given string.
Note: It cannot remove space at middle of the
String
Syntax:
String trim()
Example:
String s=" Hello World";
import java.util.Scanner;
class A7{
public static void main(String args[]){
   Scanner sk=new Scanner(System.in);
   System.out.println("Enter Any String");
   String s=" Hello World ";
   System.out.println("Length of String before
trim "+s.length());
   String s1=s.trim();
  System.out.println("Length of String after trim
"+s1.length());
}
```

}

Q2. Explain String class join() method?
Ans: The String.join()method is a static introduced in java 1.8 version. It is used to join multiple String or elements of a iterable object(list or array) with specified delimiter

Syntax:

Static String join(String delimiter)

