Java - Introduction to Programming
Lecture 12

Strings

Declaration

```
String name = "Tony";
```

Taking Input

```
Scanner sc = new Scanner(System.in);
        String name = sc.next();
```

Concatenation (Joining 2 strings)

```
String firstName = "Tony";
        String secondName = "Stark";

        String fullName = firstName + " " + secondName;
        System.out.println(fullName);
```

Print length of a String

```
String firstName = "Tony";
        String secondName = "Stark";

        String fullName = firstName + " " + secondName;
        System.out.println(fullName.length());
```

Access characters of a string

```
String firstName = "Tony";
        String secondName = "Stark";

        String fullName = firstName + " " + secondName;

        for(int i=0; i<fullName.length(); i++) {
            System.out.println(fullName.charAt(i));
        }
```

Compare 2 strings

```java
import java.util.*;

public class Strings {
   public static void main(String args[]) {
       String name1 = "Tony";
       String name2 = "Tony";

       if(name1.equals(name2)) {
           System.out.println("They are the same string");
       } else {
           System.out.println("They are different strings");
       }

       //DO NOT USE == to check for string equality
       //Gives correct answer here
       if(name1 == name2) {
           System.out.println("They are the same string");
       } else {
           System.out.println("They are different strings");
       }

       //Gives incorrect answer here
       if(new String("Tony") == new String("Tony")) {
           System.out.println("They are the same string");
       } else {
           System.out.println("They are different strings");
       }

   }
}
```

Substring

The substring of a string is a subpart of it.

```java
public class Strings {
   public static void main(String args[]) {
       String name = "TonyStark";

       System.out.println(name.substring(0, 4));
```

```
    }
}
```

ParseInt Method of Integer class

```
public class Strings {
    public static void main(String args[]) {
        String str = "123";
        int number = Integer.parseInt(str);
        System.out.println(number);


    }
}
```

ToString Method of String class

```
public class Strings {
    public static void main(String args[]) {
       int number = 123;
       String str = Integer.toString(number);
       System.out.println(str.length());


    }
}
```

ALWAYS REMEMBER : Java Strings are Immutable.

Homework Problems

1. Take an array of Strings input from the user & find the cumulative (combined) length of all those strings.

```java
import java.util.*;



public class Strings {

   public static void main(String args[]) {

     Scanner sc = new Scanner (System.in);

     int size = sc.nextInt();

     String array[] = new String[size];

     int totLength = 0;



     for(int i=0; i<size; i++) {

       array[i] = sc.next();

       totLength += array[i].length();

     }



     System.out.println(totLength);

   }

}
```

2. Input a string from the user. Create a new string called ‘result’ in which you will replace the letter ‘e’ in the original string with letter ‘i’.

   Example :

   original = “eabcdef’ ; result = “iabcdif”

   Original = “xyz” ; result = “xyz”

```java
import java.util.*;


public class Strings {

   public static void main(String args[]) {

     Scanner sc = new Scanner (System.in);

     String str = sc.next();

     String result = "";


     for(int i=0; i<str.length(); i++) {

       if(str.charAt(i) == 'e') {

         result += 'i';

       } else {

         result += str.charAt(i);

       }

     }


     System.out.println(result);

   }

}
```

3. Input an email from the user. You have to create a username from the email by deleting the part that comes after '@'. Display that username to the user.

   Example :

   email = "apnaCollegeJava@gmail.com" ; username = "apnaCollegeJava"

   email = "helloWorld123@gmail.com"; username = "helloWorld123"

```java
import java.util.*;


public class Strings {

   public static void main(String args[]) {

     Scanner sc = new Scanner (System.in);

     String email = sc.next();

     String userName = "";


     for(int i=0; i<email.length(); i++) {

       if(email.charAt(i) == '@') {

        break;

       } else {

         userName += email.charAt(i);

       }

     }


     System.out.println(userName);

   }

}
```