Java - Introduction to Programming
Lecture 7

Strings:

Declaration

```java
public class Strings {
public static void main(String[] args) {

    String str = "p"; //character
    String word1 = "Piyush"; //single string
    String word2 = "Piyush keshari";
    String sentance = "My name is Piyush Keshari"; //sentance
    System.out.println(str);
}


}
```

Taking Input

```java
public class Strings {
public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
    String str = sc.next();
    // for single word
    String str = sc.nextLine();
    // for multiple word
    System.out.println(str);
}


}
```

Concatenation (Joining 2 strings)

```java
public class Strings {
public static void main(String[] args) {
    //concatination - joining 2 Strings
    String fname = "piyush";
    String lname = "keshari";
    String fullname = fname + " "+lname;
    System.out.println(fullname);
}


}
```

Print length of a String

```java
public class Strings {
public static void main(String[] args) {
    //concatination - joining 2 Strings
    String fname = "piyush";
    String lname = "keshari";
    String fullname = fname + " "+lname;
    //length of a string
    System.out.println(fullname.length());
}


}
```

Access characters of a string

```java
public class Strings {
public static void main(String[] args) {
    //concatination - joining 2 Strings
    String fname = "piyush";
    String lname = "keshari";
    String fullname = fname + " "+lname;
    //charAt
    for(int i=0; i<fullname.length(); i++) {
        System.out.println(fullname.charAt(i));
    }

}
}
}
```

Compare 2 strings

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

    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");
    }
```

```java
    //Gives incorrect answer here
    if(new String("Piyush") == new String("Piyush")) {
        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 str = "Piyushkeshari";
    System.out.println(str.substring(0,4));
}
}
```
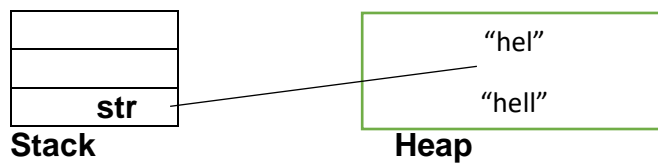
ParseInt Method of Integer class

```java
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

```java
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.

String str = "h"
Str + "e"
Str + "l"
Str+ "l"
Str + "o"

```
          _____
         |                |          "hel"
         |_____|
         |_____|          "hell"
         |_____str_____|
             Stack                   Heap
```

Homework Problems

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

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"

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 = "piyushkeshari@gmail.com" ; username = "piyushkeshari"

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