



String Static Methods - length()

```
public static void main (String[] args)
{ //main
  String phrase = "Mohawk College";

  //index numbers
  System.out.println( phrase );
  System.out.println("01234567890123" );

  System.out.println("length: " + phrase.length() );
} //main
```

String Static Methods - the + sign

```
public static void main (String[] args)
{ //main
  String phrase = "Mohawk College";

  //index numbers
  System.out.println( phrase );
  System.out.println("01234567890123" );

  // + sign means concatenation
  System.out.println(phrase + "\n" + "Department of Computer Science");
} //main
```

String Static Methods - toUpperCase()

```
public static void main (String[] args)
{ //main
  String phrase = "Mohawk College";

  //index numbers
  System.out.println( phrase );
  System.out.println("01234567890123" );

  //upper case
  System.out.println(phrase.toUpperCase() );
} //main
```

String Static Methods - contains()

```
public static void main (String[] args)
{ //main
  String phrase = "Mohawk College";

  //index numbers
  System.out.println( phrase );
  System.out.println("01234567890123" );

  //contains
  System.out.println(phrase.contains("w") );
  System.out.println(phrase.contains("Academy") );
} //main
```

String Static Methods - charAt()

```
public static void main (String[] args)
{ //main
  String phrase = "Mohawk College";

  //index numbers
  System.out.println( phrase );
  System.out.println("01234567890123" );

  //character index number
  System.out.println( phrase.charAt(4) );
} //main
```

String Static Methods - indexOf()

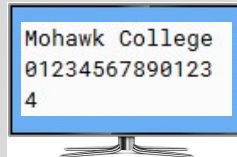
```
public static void main (String[] args)
{ //main

    String phrase = "Mohawk College";

    //index numbers
    System.out.println( phrase );
    System.out.println("01234567890123");

    //index number
    System.out.println( phrase.indexOf("w") );

} //main
```



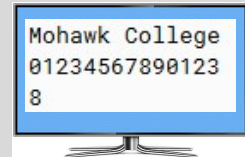
String Static Methods - lastIndexOf()

```
public static void main (String[] args)
{ //main
    String phrase = "Mohawk College";

    //index numbers
    System.out.println( phrase );
    System.out.println("01234567890123");

    //last index number
    System.out.println( phrase.lastIndexOf("o") );

} //main
```



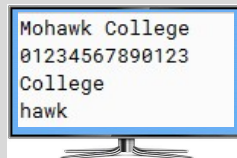
String Static Methods - substring()

```
public static void main (String[] args)
{ //main
    String phrase = "Mohawk College";

    //index numbers
    System.out.println( phrase );
    System.out.println("01234567890123");

    //substring
    System.out.println( phrase.substring(7) );
    System.out.println( phrase.substring(2,6) );

} //main
```



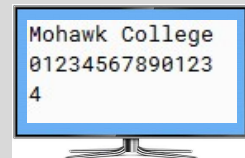
String Static Methods - Combining Methods

```
public static void main (String[] args)
{ //main
    String phrase = "Mohawk College";

    //index numbers
    System.out.println( phrase );
    System.out.println("01234567890123");

    //combining methods
    System.out.println( phrase.substring(2,6).length() );

} //main
```



Getting User Input into a Variable

```
import java.util.Scanner;

/**
 * This program asks the user to enter their name and age
 *
 * @author James Bond
 * @version v100
 */
public class AskForAge
{ //class

    public static void main (String[] args)
    { //main
        Scanner keybd = new Scanner(System.in);

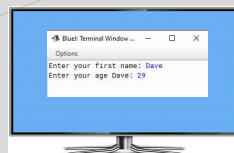
        String name;
        int age;

        System.out.println("Enter your first name: ");
        name = keybd.nextLine();

        System.out.println("Enter your age " + name + ": ");
        age = keybd.nextInt();

    } //main
} //class
```

1. Attach the Scanner library
2. Create keybd object of type Scanner
3. Read a string then an integer.



USER Input should ALWAYS, ALWAYS, ALWAYS be done using a String variable, -- to prevent program crashes ...so the previous program should be written like this

```
import java.util.Scanner;

/**
 * This program asks the user to enter their name and age
 *
 * @author James Bond
 * @version v100
 */
public class AskForAge
{ //class

    public static void main (String[] args)
    { //main
        Scanner keybd = new Scanner(System.in);

        String name;
        int age;

        System.out.println("Enter your first name: ");
        name = keybd.nextLine();

        System.out.println("Enter your age " + name + ": ");
        age = keybd.nextInt();

    } //main
} //class
```

```
import java.util.Scanner;

/**
 * This program asks the user to enter their name and age/
 *
 * @author James Bond
 * @version v101
 */
public class AskForAge
{ //class

    public static void main (String[] args)
    { //main
        Scanner keybd = new Scanner(System.in);

        String name, s_age;
        int age;

        System.out.println("Enter your first name: ");
        name = keybd.nextLine();

        System.out.println("Enter your age " + name + ": ");
        s_age = keybd.nextLine();
        age = Integer.parseInt(s_age);

    } //main
} //class
```

```
//  
+ This program asks the user to enter their name and age/  
+  
+ Author: James Bond  
+ Version: v1.01  
+  
public class AskForAge  
{  
    //class  
  
    public static void main (String[] args)  
    {  
        //main  
  
        Scanner keybd = new Scanner(System.in);  
  
        String name, s_age;  
        int age;  
  
        System.out.print("Enter your first name: ");  
        name = keybd.nextLine();  
  
        System.out.print("Enter your age " + name + ": ");  
        s_age = keybd.nextLine();  
  
        try  
        {  
            age = Integer.parseInt(s_age);  
            if(age > 0)  
            {  
                System.out.println("Your age number is " + age);  
            }  
        } catch (NumberFormatException ex)  
        {  
            System.out.println("Error: This is not a valid age");  
        }  
    }  
}  
//main
```

Data Validation

We always read data into a String variable from the user. This allows us to perform data validation on what we are given.



