

Capture input in Java

Console input

JOptionPane method

Event based input (using GUI)

Introduction

- Java provides different ways to get input from the user.
- Some methods:
 - Console input
 - Scanner class
 - BufferedReader class
 - JOptionPane method
 - Event based input (using GUI)

The Scanner class

- In order to use the object of Scanner, we need to import `java.util.Scanner` package.
 - `import java.util.Scanner;` [learn more about import Java Import Packages](#)
create an object of the Scanner class

```
// create an object of Scanner  
Scanner input = new Scanner(System.in);
```

```
// take input from the user  
int number = input.nextInt();
```

Example - 1

```
Scanner input = new Scanner(System.in);

System.out.print("Enter an integer: ");
int number = input.nextInt();
System.out.println("You entered " + number);

// closing the scanner object
input.close();
```

Scanner Methods for taking input

- `nextInt()`
 - reads an **int** value from the user
- `nextFloat()`
 - reads a **float** value from the user
- `nextDouble()`
 - reads a **double** value from the user
- `next()`
 - reads a **word** from the user (word ends with whitespace) eg *sheep after white space*
- `nextLine()`
 - reads a **line text** from the user
- `nextBoolean()`
 - reads a **Boolean** value from the user
- `nextShort()`
 - reads a **short** value from the user
- `nextLong()`
 - reads a **long** value from the user

Example - 2

```
// create an object of Scanner
Scanner input = new Scanner(System.in);
//reads an int value
int number = input.nextInt();
//reads a double value
double number = input.nextDouble();
//reads a entire word
String value= input.next();
//reads the entire line
String lineVal= input.nextLine();
```

The BufferedReader class

- <https://www.javatpoint.com/java-bufferedreader-class>
- Java BufferedReader class is used to read the text from a character-based input stream.
- It can be used to read data line by line by readLine() method. It makes the performance fast.
- BufferedReader class methods
 - int read() - it's used to read a single character.
 - int read(char[] cbuf, int off, int len) - reading characters into a portion of an array.
 - String readLine() - It is used for reading a line of text.
- Should import java.io.BufferedReader;

BufferedReader - Example

```
BufferedReader in = new BufferedReader(new  
InputStreamReader(System.in));
```

```
name = in.readLine();
```

```
int number = Integer.parseInt(in.readLine());
```


The JOptionPane class

- Now moving closer to GUI and Event driven programming in Java
- See <https://www.javatpoint.com/java-joptionpane>,
<https://docs.oracle.com/javase/tutorial/uiswing/components/dialog.html>
- The **JOptionPane** class is used to provide standard dialog boxes such as message dialog box, confirm dialog box and input dialog box.
- These dialog boxes are used to display information or get input from the user.
- The JOptionPane class inherits JComponent class.

JOptionPane methods

- static void **showMessageDialog**(Component parentComponent, Object message)
 - It is used to create an information-message dialog titled "Message".
- static void **showMessageDialog**(Component parentComponent, Object message, String title, int messageType)
 - It is used to create a message dialog with given title and messageType
- static int **showConfirmDialog**(Component parentComponent, Object message)
 - It is used to create a dialog with the options Yes, No and Cancel; with the title, Select an Option.

JOptionPane methods Cont...

- static String **showInputDialog**(Component parentComponent, Object message)
 - It is used to show a question-message dialog requesting input from the user parented to parentComponent
- void **setInputValue**(Object newValue)
 - It is used to set the input value that was selected or input by the user.
- Notice that they are static methods therefore called using the classname

JOptionPane - Examples

- String value =
 JOptionPane.showInputDialog(`null`, `"Age:"`);
- JOptionPane.showMessageDialog(`null`, `"'"` + value
 + `"` is invalid\n"`
 + `"Please enter digits only"`);

Next Input method will be will be GUI

Introduction to event driven programming in Java