Keyboard Class

A byte size lesson in Java programming.

Reading input

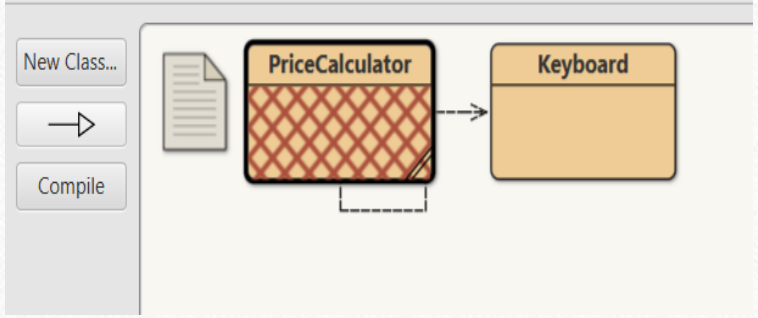
- We have learnt that computers accept input from the outside, process it and produce an output.
- Sometimes our programs need to collect something from the user.
- E.g. Numbers to perform arithmetic operations on
- E.g. Data to use in the running of the program

How do we do it?

- Getting user input from the keyboard is not very easy, but other people came to the rescue and we are allowed to use someone else's code!
- We will be including a Keyboard.java file in our project which is a Keyboard **class**.

What is a class?

New Class… in BlueJ



- A **class** is a file that contains blocks of code in Java. We are already used to creating classes in BlueJ.
- A project can contain more than one file, therefore we can have more than one class in the same space.
- Having multiple classes keeps our code organised and makes it easier to re-use code!
- We will talk more about classes when we do **Object-Oriented Programming**.

Looking at the Keyboard Class

```java
import java.io.*;

/**
 * This is a helper class to help students accept user input from the keyboard
 * in their programs.
 *
 * @author Teleskola.mt
 * @version 0.1
 */
public class Keyboard
{
    public static String readString() {
        BufferedReader br;
        try {
            br = new BufferedReader(new InputStreamReader(System.in));
            return br.readLine();
        } catch (Exception e) {

        }
        return null;
    }

    public static int readInt() {
        return Integer.parseInt(readString());
    }

    public static byte readByte(){
        return Byte.parseByte(readString());
    }

    public static short readShort(){
        return Short.parseShort(readString());
    }
```

- There are many (yellow) blocks of code.
- Each yellow block is a **method** that can helps us read user input.
- Using this class, we can use **readInt** to get an integer from the user.

How to use the Keyboard class

- Making use of the blocks in the Keyboard class is *really easy*.
- The line of code below, reads an integer typed by the user, and puts it into a variable called number.

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

Input Types

- Depending on the input we are collecting, we can use different methods of the Keyboard class

  int: readInt();

  float: readFloat();

  double: readDouble();

  String: readString();

Let's test your understanding!

```
// Ask the user to enter a value for temperature
System.out.println("What is the temperature today?");
// take input from the user
double temperature =                                ;
```

Let's test your understanding!

```
// Ask for two numbers
System.out.println("Enter the first number…");
// Get first number from the user
int num1   =                                    ;

// Get second number from the user

int                                             ;

int average = (num1 + num2)/2;
```