

MINISTERUL EDUCAȚIEI REPUBLICII MOLDOVA

UNIVERSITATEA TEHNICĂ A MOLDOVEI

Facultatea „Calculatoare, Informatică și Microelectronică”

FILIERA ANGLOFONĂ

REPORT

Laboratory Work #2

On IDE

A efectuat:

st. gr. FAF-141 (l. engleză)

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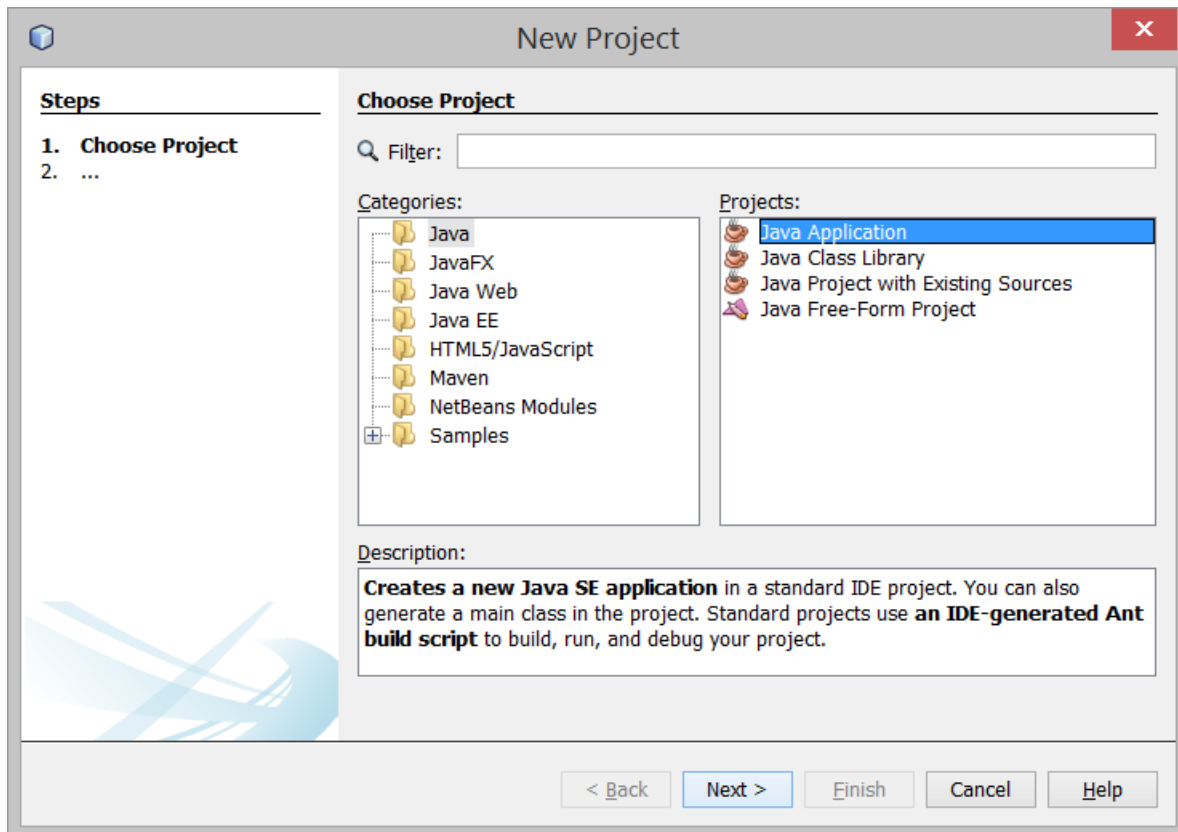
IDE

For my laboratory work I chose to do it in Java, and for the IDE I chose NetBeans. I chose this specific IDE because I find it easy to work with as it has a design tab where you can put the buttons you need and the code will be generated automatically.

Work Flow

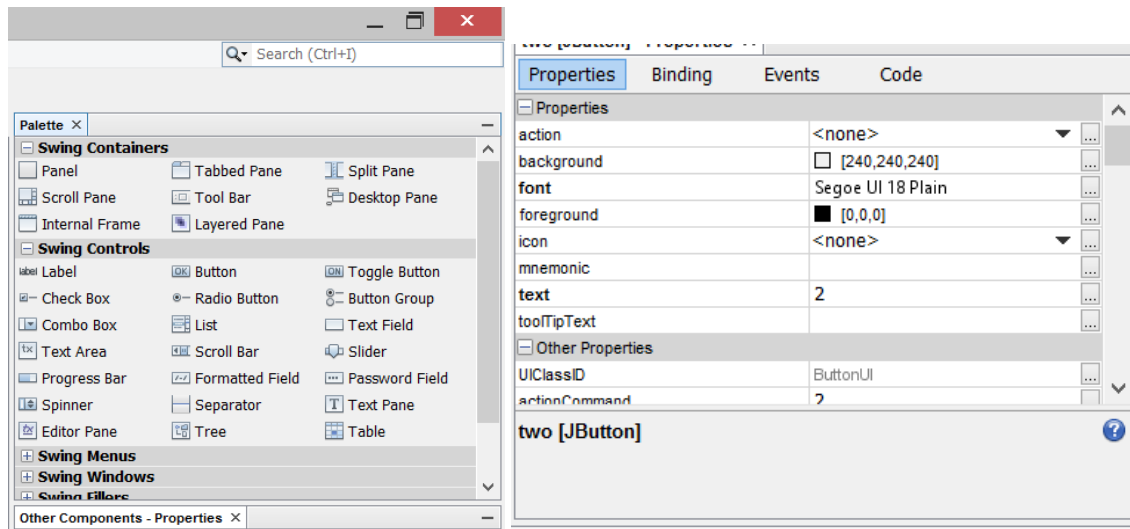
Project

When you open NetBeans for the first time, it will ask you for your default folder. Next you create a new project and chose *java application* and you give it the desired name.

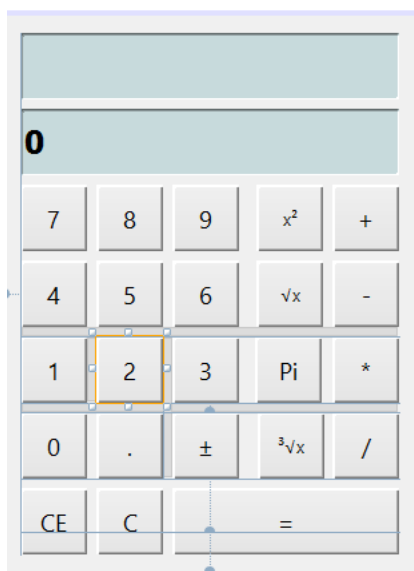


Design

After that we start with the design, otherwise we have no things to program. This is the palette where we find all the particles we need for this project. Bellow that there are the properties of the selected visual unit such as buttons, displays etc. As a default the only thing there is, is a frame and the default background that holds all particles.

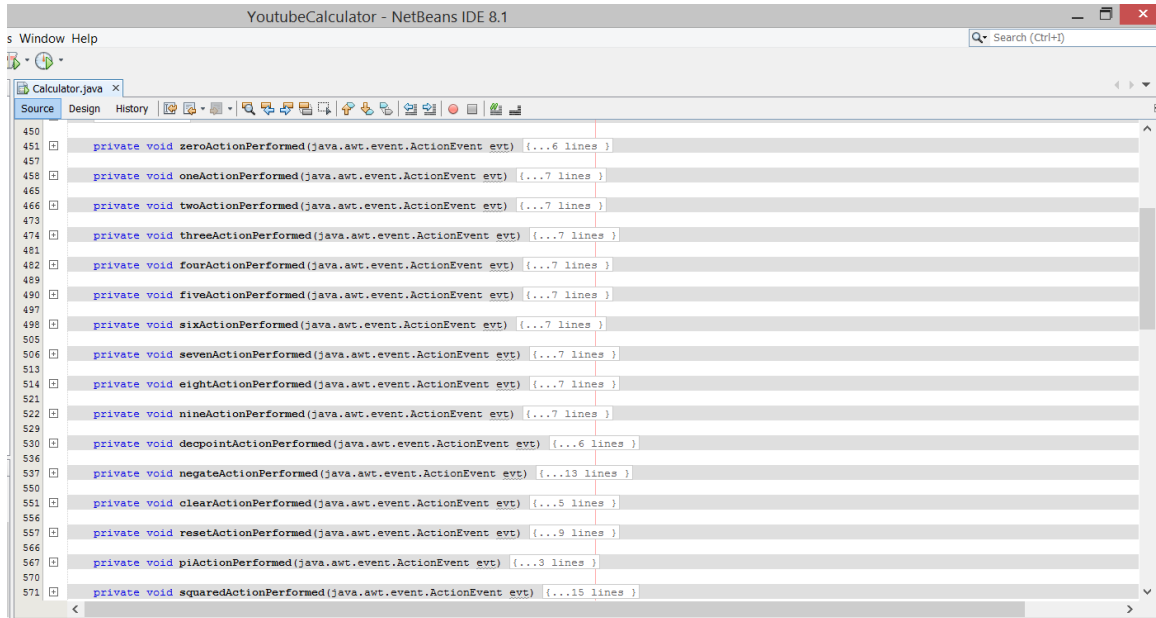


To begin with the design we chose 2 text fields that will serve as our displays, then we start to add our buttons roughly 50x50 in size. After adding one of them we just copy to avoid changing their size every time. To add the special characters I just copied them from a word file to make thing easier. After that we name all the buttons and select our font, I chose Segoe UI as it is the default font for Windows 8 UI. Then we dissect/select the stuff we need in the properties (like making the window not resizable).

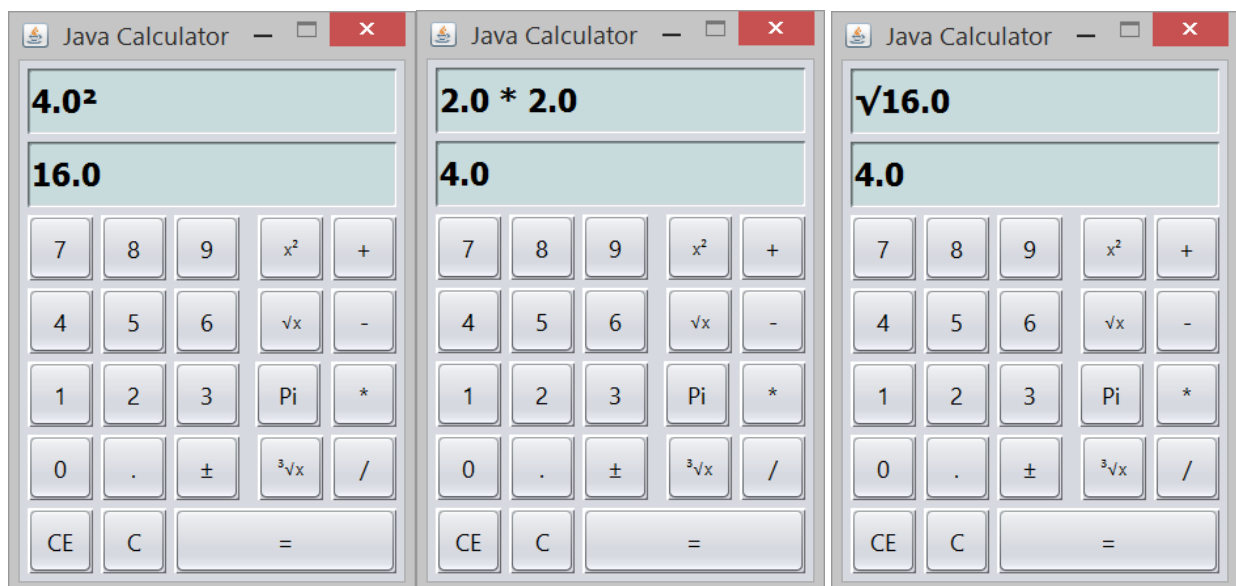


Input functions

If I want my buttons to do something, I need to give them actionPerformed. Go through event/action/actionPerformed. This creates a method which is called when a corresponding button is pressed. To make this as fast as possible I just double click on the button and it takes me to the code corresponding to it. We go through all the buttons and obtain what is pictured bellow. But before I write the functions for buttons I need to declare the variables.



After I'm all done with the function and the code, I added colour to the text field to make it look more like an actual display with that blue-ish colour and make other minor adjustments to the design. After that I test all the functions and buttons to be working correctly.



Buttons

For the buttons to be added I chose the numbers (obviously), addition, subtraction, multiplication, division, x^2 , \sqrt{x} , \pm and even tried (and succeeded) adding $\sqrt[3]{x}$ and π . For the clearing we have CE (clear entry) and C (clear all).

Conclusion

I had the opportunity to create a project in NetBeans and Java which I haven't done before. I found designing the calculator relatively easy thanks to the tools this IDE gives us, also the generated code was a huge help and reduced my work by a rather long while.

That however was the easy part; the more difficult one was making all the functions work correctly in pretty much any circumstances. Working with the operations was also a little more difficult, but after figuring out the simpler operations working with them was easy enough.

Another thing I had trouble for some reason were both of the clear buttons, I kept getting errors for no apparent reason for a really long time, however a restart of the IDE and my PC magically fixed those issues. They have been working without any issues since then.

What I have learned during this laboratory is that NetBeans is a powerful tool that definitely needs to be explored. I also had the opportunity to work in Java which turned out to be a good experience and the written code was easily understandable to someone who has never used it before.