

FACULTY OF COMPUTERS, INFORMATICS AND MICROELECTRONICS

TECHNICAL UNIVERSITY OF MOLDOVA

## WINDOWS PROGRAMMING

LABORATORY WORK No.1

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# Window. Window handling. Basic window's form elements

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*Authors:*

Alexandra COTOVICI

*Supervisor:*

Irina COJANU

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## Laboratory work #1

### 1 Purpose of the laboratory

Gain knowledge about basics of event-driven programming, understanding of window's class and basic possibilities of Win32 API. Also she will try to understand and process OS messages.

### 2 Laboratory Work Requirements

- **Basic Level (grade 5 - 6) you should be able to:**
  - a) Create a Windows application
  - b) In the middle of the window should be present the following text: "Done with Pride and Prejudice by student name". Replace student name with your name.
  - c) On windows resize, text should reflow and be in window's middle (vertically and horizontally)
- **Normal Level (grade 7 - 8) you should be able to:**
  - a) Realize the tasks from *Basic Level*.
  - b) Add 2 buttons to window: one with default styles, one with custom styles (size, background, text color, font family/size)
  - c) Add 2 text elements to window: one with default styles, one with custom styles (size, background, text color, font family/size)
- **Advanced Level (grade 9 - 10) you should be able to:**
  - a) Realize the tasks from *Normal Level*.
  - b) Make elements to interact or change other elements (2 different interactions) (ex. on button click, change text element color or position)
  - c) Change behavior of different window actions (at least 3). For ex.: on clicking close button, move window to a random location on display working space

### **3 Laboratory work implementation**

#### **3.1 Tasks and Points**

We haven't got tasks with points

#### **3.2 Laboratory work analysis**

<https://github.com/TUM-FAF/FAF-141-Cotovici-Sanda.git>

I had explained all the features that I had been added to my window in README.md.

### 3.3 Prove your work with screens

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Windows Programing

Violet Orange

Done with Pride and Prejudice by Cotovici Alexandra

Windows Programing

GO Clear

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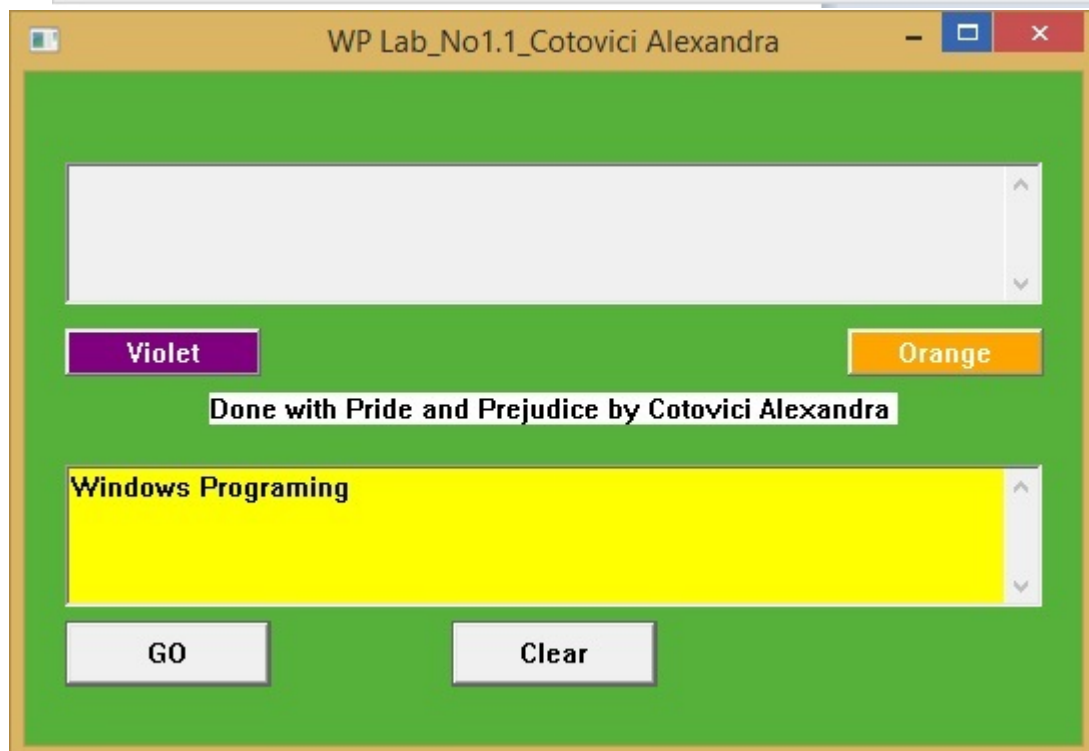
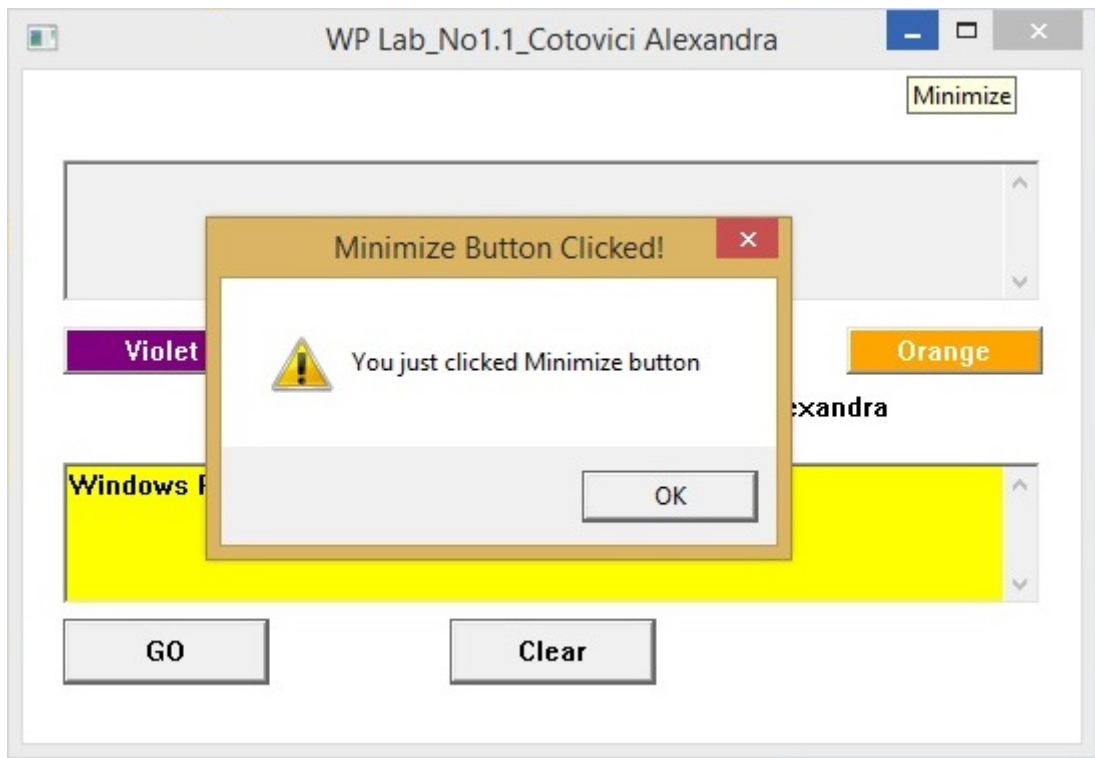
Windows Programing

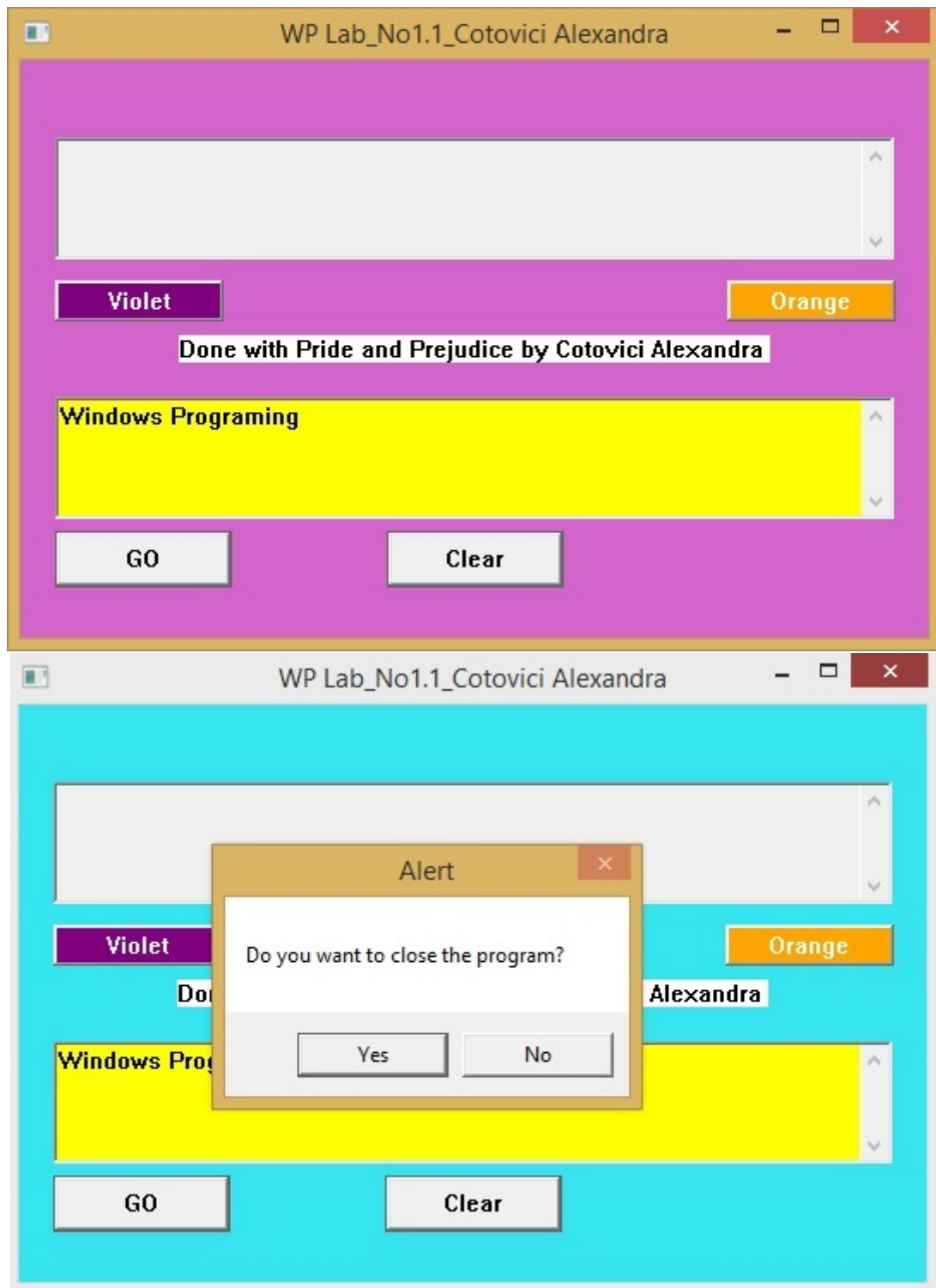
Violet Orange

Done with Pride and Prejudice by Cotovici Alexandra

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## Conclusions

In this laboratory work I have learned a lot of new things. A great challenge for me, was working with github. I found out a lot of new functions and a lot of new things about Windows programming. This was the first time I had created my own window, and I was so proud of printing on screen "Made with Pride and Prejudice by Cotovici Alexandra". In the beginning I thought that it would be an easy laboratory, but it wasn't. I had worked a lot.

First step after DrawText , I wanted to have in my window 2 text elements, one with default style and another with custom. I have added these elements, first user introduced and second will appear on the screen. Then I added buttons. I have added 4 buttons: 1 is for getting message from user and printing on the screen, 2 is to clear, and last 2 are for changing text color: violet and orange.

Then last task was to change behavior of different window actions. And I choose for minimize button : when is pushed , on the screen appears warning and message that user pushed minimize button; for maximize - I choose to be changed background's color; and for last exit button - when it is pushed appear a new window with question : "Do you want to close the window: YES or No"

The hardest part was to color buttons Violet and Orange. I had tried a lot of functions , but they didn't work. In last hour of doing laboratory I founded bug. And the problem was solved.

So, I have learned a lot of new functions and I saw how Window Main Function does process all these messages, and how messages are queued . I observed a little bit how works this interctions between programer and Window.



## References

- 1 Charles Petzhold, *official page*, <http://www.charlespetzold.com/pw5/>
- 2 About Text output ,page:,<http://www.cplusplus.com/forum/windows/31112/>
- 3 RGB colors,page: [http://www.rapidtables.com/web/color/RGB\\_Color.html](http://www.rapidtables.com/web/color/RGB_Color.html)
- 4 Microsoft source, official page,<https://msdn.microsoft.com>