



## STRUKTUR DATA

### Lab Exercise II

#### -STACK-

Complete each question below.

***Please note that this is an individual assignment so I encourage you to do this assignment by yourself. However, if you want to discuss with your classmates, please try to make sure you understand what you are doing and not just copy your friend's answers.***

1. Write a C++ program to calculate the average value of the stack (using an array) elements using the following test data:  
Input some elements onto the stack:  
Stack elements: 0 1 5 2 4 7  
Average of the said stack values: 3.17  
Remove two elements:  
Stack elements: 5 2 4 7  
Input two more elements  
Stack elements: 10 -1 5 2 4 7  
Average of the said stack values: 4.50  
Show the output in your computer. Submit the code (.cpp file) as well as the resulting output.
2. Write a C++ program to find the maximum element in a stack (using an array) using the following test data:  
Input some elements onto the stack:  
Stack elements: 0 1 5 2 4 7  
Maximum value: 7  
Remove two elements: Stack elements: 5 2 4 7  
Input two more elements  
Stack elements: 10 -1 5 2 4 7  
Maximum value: 10  
Show the output in your computer. Submit the code (.cpp file) as well as the resulting output.
3. Write a C++ program that reverses the stack (using an array) elements using the following test data:  
Input some elements onto the stack:  
Stack elements: 0 1 5 2 4 7  
Display the reverse elements of the stack:  
Stack elements: 7 4 2 5 1 0  
Remove two elements:  
Stack elements: 2 5 1 0  
Input two more elements  
Stack elements: 10 -1 2 5 1 0  
Display the reverse elements of the stack:  
Stack elements: 0 1 5 2 -1 10  
Show the output in your computer. Submit the code (.cpp file) as well as the resulting output.



4. Write a C++ program to find the minimum element in a stack (using an array) using the following test data:
- Input some elements onto the stack:  
Stack elements: 0 1 5 2 4 7  
Minimum value: 0  
Remove two elements:  
Stack elements: 5 2 4 7  
Input two more elements  
Stack elements: 10 -1 5 2 4 7  
Minimum value: -1
- Show the output in your computer. Submit the code (.cpp file) as well as the resulting output.
5. Write a C++ program to find and remove the largest element in a stack using the following test data:
- Input some elements onto the stack:  
Stack elements are: 5 2 4 7  
Find and remove the largest element 7 from the stack.  
Stack elements are: 5 2 4  
Input two more elements  
Stack elements are: 20 -1 5 2 4  
Find and remove the largest element 20 from the stack.  
Stack elements are: -1 5 2 4
- Show the output in your computer. Submit the code (.cpp file) as well as the resulting output.
6. Write a C++ program to find and remove the lowest element in a stack using the following test data:
- Input some elements onto the stack:  
Stack elements are: 5 2 4 7  
Find and remove the lowest element 2 from the stack.  
Stack elements are: 5 4 7  
Input two more elements  
Stack elements are: 2 -1 5 4 7  
Find and remove the lowest element -1 from the stack.  
Stack elements are: 2 5 4 7
- Show the output in your computer. Submit the code (.cpp file) as well as the resulting output.