

Activity 7

Comp 11 - Summer Session — Stack and Vector

With a partner(or two), discuss the following code sample and answer the questions below. The instructor and teaching assistants will let you discuss and then be around to answer questions. ¹

7.1 Description

For this activity, we are going to get some practice inserting elements into a vector.

This time we will use the insert and erase commands (as opposed to push_back and pop_back).

Try the following:

- Write a small program that inserts 5 integers into a vector. (Use the insert command to put them in order)
- Reference: <http://www.cplusplus.com/reference/vector/vector/>
- cout out the five integers that you put in the vector by iterating through it.
- Next erase all of the elements (in any order), and then cout the vector size to confirm it is empty.

7.2 Questions

1. See the above programming problem above, and practice using a vector.
2. What is the STL? How does it help us as programmers?

¹Activities do not need to be returned to instructors, they are for your benefit.

3. If you try to add a `std::string` or a `bool` to a vector of `int`, will it work?
4. What happens if you try to call the member function `pop_back` on a vector too many times. That is, your vector is of size 0 (no elements), and you still try to remove more elements (i.e. can I go out of bounds).
5. What about if I try to access a vector at `myVector[-100]`?
6. What does LIFO mean (in regards to a data structure)?
7. What could be a possible problem with this code?

```
1 #include <stack>
2
3 int main(){
4
5     std::stack<int> myStack;
6     myStack.push(5);
7
8     while (!myStack.empty()){
9         std::cout << myStack.top() << "\n";
10    }
11
12    return 0;
13 }
```

Listing 7.1: Good or bad stack example