

Lab 5: Vectors and Deques

UWYO COSC 2030

1 Introduction to Vectors and Deques

Vectors and deques (pronounced 'decks') are two more data structures used in C++ and other programming languages. Vectors can be conceptualized as dynamic arrays, whereas deques are **double-ended queues**.

- www.cplusplus.com/reference/vector/vector/
- www.cplusplus.com/reference/deque/deque/

2 Assignment

Accept the Github classroom assignment here: <https://classroom.github.com/a/LVa14oDL>. Using the C++ program `Lab5.cpp` and `card.h`, familiarize yourself with the two new data structures. First, using vectors, simulate building a deck of cards using the supplied `card.h` file. Shuffle the deck and deal yourself five cards. Next, using deques, rewrite the same functions from the assignment in lab 4.

2.1 Vector

Finish the function `buildAndDeal`. You will build a standard 52 card deck with a vector. As you add the cards, remember to change the suit and face. There are four suits: hearts, spades, diamonds, clubs. Faces include Ace, 2, 3, 4, 5, 6, 7, 8, 9, 10, Jack, Queen, King. Read through the `card.h` header file to know how a card is set up and what variables it has. Read through the `buildAndDeal` function. The deal portion is already written for you and will illustrate how to access the functions of the card struct once inside a vector.

2.2 Deque

Using a deque instead of a queue, complete the `parenCheck` and `stringReverse` functions from the previous lab. Feel free to reference your code from last time.

3 Submission

Turn in on Github at the provided link. Please include a `README.md` with your name and any assistance received.