Assignment 2

Due: Sunday, 21 January 2018, 11:59 PM on TEACH as a .cpp and a PDF

Conditionals via Adventure

Design is very important when developing programs and there are a variety of ways to approach it. You may draw pictures, write it out in prose or structured text, use pseudo code, and more! The point of design is to give you a blueprint to follow while you are coding. This saves time debugging your program as you can catch mistakes early. It is better to spend one hour of designing than it is to spend five hours debugging.

For this assignment **you must design a solution** to the following problem statement, and **implement your solution**! Example Design Document: **Polya_template.pdf**

Problem Statement
The local middle school would like some text adventure games to keep their students occupied during down time. The school is leaving it up to your skill and good judgement to develop a game. It is up to you what the story and theme is but there are some requirements:
- There must be **at least five different paths or solutions** to complete the adventure
- There must be **an element of chance** that would change a user's chosen path
- You must **handle invalid input** from the user.

An example of the run of the program looks like this:

Hello and welcome to the adventure! To
go right enter 1, to go left enter 2: 1

You chose to go right. You have now entered Scandinavia and are being hunted by friendly oxen.
Enter 1 to befriend the oxen, enter 2 to run from the oxen: 1

You attempted to befriend the oxen. You think you can ride them.
Enter 1 to attempt to ride the oxen, enter 2 to walk away: 1

Unfortunately fate was not on your side (due to a random number, coin flip, etc.), and you are forced to walk away.
Enter 1 to walk right, enter 2 to walk left: 1

You chose to go right. You have now entered America and are fighting a strong warrior. Enter 1 to throw your arrow at the warrior, enter 2 to run home: 2

You chose to go home. The adventure has ended.

The rest of the implementation is up to you, but try to make your game as clean and attractive to play as possible.

(25 pts) Design

Understanding the Problem (5 pts)

What is the problem asking you to do? What are the inputs for the problem? What questions do you have about the problem?

Devising a Plan (10 pts)

- What is the theme of the adventure going to be?
- What are the options?
- List the decisions you will give in your text adventure?
- Which decisions will have an element of chance?
- How are you going to create the element of chance?
- How are you going to handle invalid input entered by the user?

Test Plan (10 pts)

You need to include good and bad values for your program.

Input Values:	Expected Outcome:	Actual Outcome:
100	Error Message	Crashed
1	Takes me to the right to Scandinavia with friendly oxen.	Takes me to the right to Scandinavia with friendly oxen.
…	…	…

(65 pts) Implementation

In addition to design, you must implement your program as a C++ program. Here are implementation requirements:
- There must be an empty line separating each navigation
- The choice system must be based on numbers
- You must use if/else statements and/or switch statements
- You need to use the rand() function to add an element of chance
- You must have 5 different paths/solutions.

(10 pts) Extra Credit
Remember extra credit is not a top priority of an assignment and may be over topics we may never touch on in class. It is to encourage you to extend your learning.

Default plain text terminals can be boring. Add some color to your text adventure game. Below is an example turning four spaces red:

Here is reference material: https://en.wikipedia.org/wiki/ANSI_escape_code
Credit will be awarded for adding color so that it enhances the experience of the text adventure games. **If adding color makes your program less user friendly you will have points deducted.**

(10 pts) Program Style/Comments

In your implementation, make sure that you include a program header in your program, in addition to proper indentation/spacing and other comments. Below is an example header to include. Make sure you review the style guidelines for this class, and begin trying to follow them, i.e. don't align everything on the left or put everything on one line!
http://classes.engr.oregonstate.edu/eecs/winter2018/cs161-001/assignments/161_style_guideline.pdf

```
/*****************************************************
** Program: adventure.cpp
** Author: Your Name
** Date: 21 January 2018
** Description:
** Input:
** Output:
*****************************************************/
```

Electronically submit your C++ program (**.cpp** file, not your executable) by the assignment due date, using TEACH.
https://secure.engr.oregonstate.edu:8000/teach.php?type=want_auth
Make sure you demo Assignment #2 within two weeks of the due date to receive full credit. If you go outside the two week limit without permission, you will lose 50 points. If you fail to show up for your demo without informing anyone, then you will automatically lose 10 points.