

CS 1580 Lab 04: Loops and Conditionals

Purpose:

This lab is designed to introduce students to if statements and branching as well as while loops.

Reference Examples:

□□ = *Two Spaces*

IF-ELSE-IF-ELSE

```
if ( condition1 )
{
  □□[code]
}
else if (condition2 )
{
  □□[code]
}
else
{
  □□[code]
}
```

DO-WHILE

```
do
{
  □□[code]
}while(condition);
```

Assignment:

Use a do-while loop and if-else statements to sort the student into one of the four Hogwarts houses.

1. Prompt the user to enter their name
2. Prompt for a choice between 1 to 4 based on a trait they value most. Let 0 be the default choice.
3. Based on the choice, identify the “house” they belong to and display the results.
4. If the user enters an illegal input (choice ==0 or choice> 4) then use a do..while to repeat step2.
5. Ensure that code-blocks do not repeat. You will not receive full points if they do

Assignment Hints:

- a. **If you know how to use a switch case statement, you may not use it for this assignment.**
You must use an if-else-if-else statement.

- b. Ask user to input integer value instead of letters like a or b or c etc. We will not be checking for types.
- c. You may need to include additional headers to deal with strings (*#include <string>*)

Logic:

- 1. Courage → Gryffindor
- 2. Intelligence → Ravenclaw
- 3. Hard work → Hufflepuff
- 4. Ambition → Slytherin

Additional info: http://harrypotter.wikia.com/wiki/Hogwarts_Houses
<https://youtu.be/xQZFWA2KDbw>

Sample output

```
Welcome to Hogwarts! You are?
<enter name>

Hi <name>...Choose that which you value most:
1. Courage
2. Intelligence
3. Hard work
4. Ambition

6

Sorry <name>, but you may be a muggle. Let's try
again: Choose that which you value most:
1. Courage
2. Intelligence
3. Hard work
4. Ambition

2

<name>, You will be a Ravenclaw.
```

Steps:

- 1. Remotely connect to a Unix/Linux machine using Putty
- 2. Make a new directory named Lab4 under cs1580 folder and go into that directory
- 3. Identify the steps and design the program (try writing pseudocode for your reference)

4. Open a new C++ file and write the code: *jpico lab4.cpp*

5. Compile the program: *g++ lab4.cpp -o lab4*

6. Run the program: *lab4*

7. Submit your work

Once you are sure you have the program running correctly, to submit a copy of your work, do the following command:

Section F (4:00 p.m. to 5:50 p.m.): **cssubmit 1580 f 4**

Section G (6:00 p.m. to 7:50 p.m.): **cssubmit 1580 g 4**

Note:

When you submit your work, run your program for the input above