



CSC2101: LAB 6

CONCEPTS:

- Menu based program
- Functions, returning data from a function, sending data to a function
- Loops, nested loops
- Switch statement
- Running total
- Formatting output, escape characters

GRINGOTTS BANK PROGRAM



Image copied from http://harrypotter.wikia.com/wiki/Gringotts_Head_Goblin

DESCRIPTION / SPECIFICATIONS

Write a program for Gringotts Bank. The program will first display a menu giving the manager three options – 1 - Enter Goblin Sick Days, 2 – Display Something Cool or 3 – End the Program. If the manager chooses 1, then the program will prompt the user for the number of goblin tellers that worked each of the last three years. For each teller the program should ask for the number of days out sick for each of the last three years. The output should provide the number of tellers and the total number of days missed by all the tellers over the last three years. If the manager chooses 2, then you will display ASCII art – whatever you want it to be (look at mine for example) and also you will keep track of how many times your user enters in to this function. If the manager chooses 3, then the program should print how many times the user chose to display the ASCII art and then say “Bye!” and then end.

Save your program as **lab6.cpp**.

FUNCTIONS

MAIN FUNCTION

1. Use a loop to continue running the program until the user selects to end the program.
2. Call the function DisplayMenuGetChoice:
 - a. Arguments: none
 - b. Returns: user's menu choice
3. Use a switch statement to determine what to do with the user's choice.
 - a. If the user selects 1, then call a function named GoblinSickDays:
 - i. Arguments: none
 - ii. Returns: none
 - b. If the user selects 2, then call the function named DisplayCoolMessage:
 - i. Arguments: current number of times the cool message has displayed
 - ii. Returns: updated number of times the cool message has displayed
 - c. If the user selects 3, then print out how many times the user displayed the cool message and then print "Bye!"
Refer to the sample output for the format.

DISPLAYMENUGETCHOICE FUNCTION

1. Print out the menu of choices:

```
WELCOME TO GRINGOTT's BANK!  
Please choose one of the following options:  
1 - Enter Goblin Sick Days  
2 - Display Something Cool  
3 - End the Program  
  
CHOICE: 1
```

2. Read in the user's choice.
3. Validate the user's choice with a loop.
4. Return the user's choice from this function.

GOBLINSICKDAYS FUNCTION

1. Ask user for number of Goblin tellers.
 - a. For each teller you need to ask how many days the Goblin was sick for year 1, year2, & year 3.
 - b. Keep a running total of how many tellers were out sick in these three years and also how many total days were missed by all the tellers over the last three years.
2. Refer to sample output to see how your output should look.

DISPLAYCOOLMESSAGE FUNCTION

1. This function accepts a parameter that represents the number of times DisplayCoolMessage is called. When inside the DisplayCoolMessage function, increment this parameter. At the end of this function, return the updated amount.
2. Print out your name or another interesting word in characters (like the example below).
 - a. Get ideas & help from here: <http://patorjk.com/software/taag/#p=display&f=Big%20Money-ne&t=Gringotts>
 - b. Note that if there are any back slashes or single/double quotes, then you will have to escape them using the escape character or you will get tons of syntax errors.
3. Refer to sample output to see how your output should look.

SAMPLE OUTPUT

```
C:\Windows\System32\cmd.exe

C:\Users\acrockett\Desktop\CSC\CSC2101-002\LAB6>a

WELCOME TO GRINGOTT's BANK!
Please choose one of the following options:
    1 - Enter Goblin Sick Days
    2 - Display Something Cool
    3 - End the Program

CHOICE: 5
Invalid choice. Please choose 1-3.
CHOICE: 2

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 /$$__ $$         |__|         |$$  |$$
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C:\Windows\System32\cmd.exe

WELCOME TO GRINGOTT's BANK!
Please choose one of the following options:
    1 - Enter Goblin Sick Days
    2 - Display Something Cool
    3 - End the Program

CHOICE: 1

How many Goblin tellers worked at Gringotts during each of the last three years?
3
How many sick days was Goblin 1 out for, during year 1 ?
8
How many sick days was Goblin 1 out for, during year 2 ?
19
How many sick days was Goblin 1 out for, during year 3 ?
4
How many sick days was Goblin 2 out for, during year 1 ?
6
How many sick days was Goblin 2 out for, during year 2 ?
21
How many sick days was Goblin 2 out for, during year 3 ?
58
How many sick days was Goblin 3 out for, during year 1 ?
63
How many sick days was Goblin 3 out for, during year 2 ?
12
How many sick days was Goblin 3 out for, during year 3 ?
8
```

