

Labs: If/Else

Performance Review

Create a program that calculates a raise for an employee based upon their performance.

- If the employee had an excellent review, they receive a 6% raise
- If the employee had a good review, they receive a 4% raise
- If the employee receives a satisfactory review they receive a 3% raise
- If the employee receives a poor review, they get no raise and are put on probation, if they are already on probation they are fired!

Lazy Days

Create a program that suggests activities based upon the weather. Prompt user and read in values as necessary.

The conditions are as follows:

- If the temp is over 80 go swimming
- if the temp is between 60 and 80 go cycling
 - If you don't like cycling then go climbing
- If the temperature is between 40 and 60 you can golf
- If there is snow and the temp is below 40 you can go skiing
- If the temp is over 90 or less than 10 then program!!!

Loops

Powers of 2

Create a program that calculates powers of 2. Ask the user how many powers of two they want to calculate.

$2^0=1$

$2^1=2$

$2^2=4$

$2^3=8$

Factorial

The *factorial* of n (written $n!$) is the product of the integers between 1 and n . Thus $4! = 1*2*3*4 = 24$. By definition, $0! = 1$. Factorial is not defined for negative numbers.

1. Write a program that asks the user for a non-negative integer and computes and prints the factorial of that integer. You'll need a while loop to do most of the work—this is a lot like computing a sum, but it's a product instead. And you'll need to think about what should happen if the user enters 0.
2. Now modify your program so that it checks to see if the user entered a negative number. If so, the program should print a message saying that a nonnegative number is required and ask the user to enter another number. The program should keep doing this until the user enters a nonnegative number, after which it should compute the factorial of that number. **Hint:** you will need another while loop **before** the loop that computes the factorial. You should not need to change any of the code that computes the factorial!

Guessing Game

Create a guessing game program. The computer will generate a random number between 1 and 100. The user will get 5 guesses to get the correct number. The computer will tell the user if the guess is high or low.