

LAB 7

Conditionals

Learning Goals:

Use various conditional and if statements.

7.1 Graduation

In order to be eligible to graduate, a student must have completed 120 credits *and* have a GPA of at least 2.0. Write a simple Python program that asks the user to input their total number of completed credits and their GPA, and then which prints the statement 'You are eligible to graduate!' if the user has both completed at least 120 credits and has a GPA of at least 2.0, but otherwise prints 'You are not eligible to graduate.' if the user does not satisfy both conditions. Show that your program works correctly for all four possible cases. (10 points)

7.2 Eligibility for Congress

Given the upcoming 2024 election, let's consider whether a person is eligible to be a member of the US Congress.

a) A person is eligible to be a US Senator if they are at least 30 years old and have been a US citizen for at least 9 years. Start by writing a simple program that reads in a user's age and length of citizenship and prints out whether a person is eligible to be a US Senator or not. Show that your program works correctly for all four possible cases. (10 points)

b) A person is eligible to be a US Representative if they are at least 25 years old and have been a US citizen for at least 7 years. Write a new program based on your program from part a) that reads in a user's age and length of citizenship, and then which prints out just the one of the following three statements that is true:

- 'You are eligible for both the US House and Senate.'
- 'You eligible only for the US House.'
- 'You are ineligible for US Congress.'

Show that your program works correctly for all of the most relevant cases (at least 9, consider creating a truth table to figure them out). (20 points)