Assignment SU7

Problems

You have three problems to develop a script for, and test:

For each program, using docstrings, add the author's name, your student number, and a short description of the program to the top of the file.

Save your files as:

- StudentNumber_SU7_1.py
- StudentNumber_SU7_2.py
- StudentNumber_SU7_3.py

Save your work and submit all three scripts on eFundi.

Assignment7-1 Voting

Write a Python script that prompts the user to enter their age and gender (as "M" for male or "F" for female). The program should check whether:

- age is 18 or above, and
- gender is "M" or "F".

When both conditions are true, the program should print "You are eligible to vote", otherwise, it should print a message that specifies which condition(s) was/were not met.

Message examples

- Invalid gender
- You are not eligible to vote
- You are eligible to vote

Assignment7-2 Calculator

Write a Python script that prompts the user to enter two numbers and an operator (+, -, *, /) to perform a mathematical operation on those numbers. The program should check for a division by zero error and print an error message if the user attempts to divide by zero. The program should also use if-elif-else statements to perform the specified operation and print the result.

Message examples

- The calculated result
- Error – division by zero
- Error – invalid operator

Assignment 7-3 Exponent

Write a Python script that prompts the user to enter a base and an exponent. The program should use if statements to check whether the exponent is negative. The program should use or, and, or not operators to check if BOTH the base and exponent are not zero (since 0 to the power of 0 is not defined). The program should then use the pow() function from the math module to perform exponentiation of the base to the exponent.

Message examples

- The calculated result
- Error – exponent cannot be negative
- Error – indefinite form (0^0)

Mark allocation rubric

Script	Item	Mark allocation	
7_1	Invalid gender		/1
	You are not eligible to vote		/1
	You are eligible to vote		/1
7_2	The calculated result		/1
	Error – division by zero		/1
	Error – invalid operator		/2
7_3	The calculated result		/1
	Error – exponent cannot be negative		/1
	Error – indefinite form (0^0)		/1
Comments included in programs (penalty 1 per script), file name according to the specification (penalty 2 per script), correct extension (penalty – not marked), only the latest versions submitted (penalty 1 per additional script submission)			
TOTAL			**/10**