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| **Lab 5.1** |

**Objectives:**

* If statement COMPLETE

You have been asked to create an application that asks the user to type a vowel from the keyboard. If the character entered is a vowel, display “OK”; if it is not a vowel, display an error message. Be sure to allow both uppercase and lowercase vowels – aeiou/AEIOU. Ensure your program contains appropriate comments.

Follow the steps to create the program:

STEP 1: Create a variable to hold the letter.

STEP 2: Prompt the user to enter a letter.

STEP 3: Determine if the letter entered is a vowel or not and display the appropriate message.

STEP 4: Save the file as vowel.py

STEP 5: Compile and run your program.

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| **Lab 5.2** |

**Objectives:**

* IF statement

You have been asked to create an application that allows the user to enter two numeric values. Then let the user enter a single character as the desired arithmetic operation, for example ‘A’, ‘a’, or ‘+’ for add. The user should be able to enter the uppercase initial, lowercase initial, or the arithmetic symbol. Perform the arithmetic operation that the user selects and display the results. Ensure your program contains appropriate comments.

Follow the steps to create the program:

STEP 1: Create variables to hold the two numeric values and the desired operations.

STEP 2: Prompt the user to enter the two numeric values.

STEP 3: Prompt the user to enter the operation that they would like performed.

STEP 4: Determine which operation the user has chosen, perform the arithmetic operation and display the results. When performing division, ensure that the second number is not 0. If it is, display an error message and do not perform the division.

STEP 5: Save the file as arithmeticChoice.py

STEP 6: Compile and run your program.

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| **Lab 5.3** |

**Objectives:**

* The conditional Operator COMPLETE

You have been asked to create an application that determines if a student has passed a course. If the student has a mark of 50 or more, display a message stating they have passed, otherwise display a message stating they have failed. Use a conditional operator to make the decision in your program. Ensure your program contains appropriate comments.

Follow the steps to create the program:

STEP 1: Create a variable to hold the test score.

STEP 2: Prompt and accept the test score from the user.

STEP 3: If the score is 50 or above, show a message that the student has passed, otherwise show a message stating that the student has failed.

STEP 4: Save the file as passFail.py

STEP 5: Compile and run your program

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| **Lab 5.4** |

**Objectives:**

* The Logical AND Operator
* The Logical OR Operator COMPLETE

You have been asked to create an application that asks a user to enter an IQ score. If the score is a number less than 0 or greater than 200, issue an error message; otherwise, issue an “above average”, “average”, or “below average” message for scores over, at, or under 100, respectively. Ensure your program contains appropriate comments.

Follow the steps to create the program:

STEP 1: Create a variable to hold the IQ score.

STEP 2: Prompt the user to enter the IQ score.

STEP 3: Check that the score entered is valid and if it is not display an error message.

STEP 4: If the IQ score is valid, display a message stating whether the IQ score is above average, average or below average.

STEP 5: Save the file as iq.py

STEP 6: Compile and run your program

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| .**Lab 5.5** |

**Objectives:**

* The Logical AND Operator
* The Logical OR Operator COMPLETE

You have been asked to create an application for the Doggie Day Care Centre. The centre charges clients a daily rate that is based on both the size of the dog and number of days per month in a client’s contract. The following table shows the daily rates.

|  |  |  |
| --- | --- | --- |
| Size of Dog | 1 to 10 days per Month | 11 days and over per Month |
| Under 3kg | $15 | $12 |
| 3kg to 10kg | $20 | $17 |
| Over 10kg | $25 | $22 |

Prompt the user to enter a dog’s weight and number of days per month needing care, then calculate and display the daily rate and the total for the month (days times the daily rate). Ensure your program contains appropriate comments.

Follow the steps to create the program:

STEP 1: Create variables to hold the size of the dog and the number of days of care.

STEP 2: Prompt the user to enter the weight of the dog and the number of days of care.

STEP 3: Calculate the total for the month based on the dogs size and the number of days of care. Do not perform the calculations if either number entered is zero.

STEP 4: Display the daily rate and the total for the month. Display an error message instead if either number entered was a zero.

STEP 5: Save the file as doggieDayCare.py

STEP 6: Compile and run your program

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| **Lab 5.6** |

**Objectives:**

* Understanding Precedence COMPLETE

You have been asked to create an application to determine whether a movie theatre patron can purchase a discounted ticket. Discounts are allowed for children (age 12 and younger) and for senior citizens (age 65 and older) who attend G-rated movies. Given a person’s age and the rating of the movie you program should display if a discounted ticket can be purchased or not. Ensure your program contains appropriate comments.

Follow the steps to create the program:

STEP 1: Create variables to hold the patron’s age and the rating of the movie.

STEP 2: Prompt and accept the patron’s age and the rating of the movie.

STEP 3: Determine if the patron can purchase a discounted ticket and display a message to the user.

STEP 4: Save the file as movieTicket.py

STEP 5: Compile and run your program