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| **Lab 6.1** |

**Objectives:**

* The while Loop COMPLETE

You have been asked to create an application that asks a user to type 1, 2, 3, or 4. When the user types 4, the program ends. When the user types 1, 2, or 3, the program displays the message “Good job!” and then asks for another input. When the user types anything else, the application issues an error message and then asks for another input. Ensure your program contains appropriate comments.

Follow the steps to create the program:

STEP 1: Create a variable to hold the number.

STEP 2: Prompt and accept a number from the user.

STEP 3: Create a loop that will execute until the user enters a 4.

STEP 3a: If the number is a 1, 2 or 3 display the message “Good Job”.

STEP 3b: If the user has entered anything else display an error message.

STEP 3c: Prompt and accept a number from the user.

STEP 4: Save the file as input1234.py

STEP 5: Compile and run your program.

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| **Lab 6.2** |

**Objectives:**

* The while Loop INCOMPLETE

You have been asked to create an application that accepts information about a purchase. Each purchase has an invoice number, sales amount, and a calculated sales tax amount. When you prompt for an invoice number, do not let the user proceed until a number between 1,000 and 8,000 has been entered. When you prompt for a sale amount, do not proceed until the user has entered a nonnegative value. Calculate the sale tax amount and then display the invoice number, sales amount and sales tax amount. Ensure your program contains appropriate comments.

Follow the steps to create the program:

STEP 1: Create variables to hold the invoice number, the sales amount and the sales tax.

STEP 2: Prompt and accept an invoice number from the user.

STEP 3: Ensure that the user’s response is valid and re-prompt if not.

STEP 4: Prompt and accept a sales amount from the user.

STEP 5: Ensure that the user’s response is valid and re-prompt if not.

STEP 6: Calculate the sales tax as 10% of sales amount.

STEP 7: Display the invoice number, sales amount and sales tax.

STEP 8: Save the file as purchase.py

STEP 9: Compile and run your program.

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| **Lab 6.3** |

**Objectives:**

* The for Loop

You have been asked to create an application that sums the integers from 1 to 50 (that is, 1 + 2 + 3 + … + 50). Ensure your program contains appropriate comments.

Follow the steps to create the program:

STEP 1: Create a variable to hold the total.

STEP 2: Loop around from 1 to 50, adding the current number to the total.

STEP 3: Display the total.

STEP 4: Save the file as sum50.py

STEP 5: Compile and run your program

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| **Lab 6.4** |

**Objectives:**

* The for Loop

You have been asked to create an application that displays all even numbers from 2 to 100 inclusive, and that starts a new line after every multiple of 20 (20, 40, 60, and 80). Ensure your program contains appropriate comments.

Follow the steps to create the program:

STEP 1: Loop around from 2 to 100, displaying the even numbers.

STEP 1a: If 20 numbers have been displayed take a new line.

STEP 2: Save the file as evenNum.py

STEP 3: Compile and run your program

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| .**Lab 6.5** |

**Objectives:**

* Loop

You have been asked to create an application that projects sales goals for a salesperson

for the next several years. The user is prompted for a salesperson’s total sales and a number of years to project the goals. For the first year, the salesperson’s goal is the current sales amount. After that, sales are projected to grow at a rate of 8 percent per year. Ensure your program contains appropriate comments.

Follow the steps to create the program:

STEP 1: Create variables to hold person’s current sales amount and the number of years.

STEP 2: Prompt and accept the total sales amount of the salesperson.

STEP 3: Prompt and accept the number of years.

STEP 4a: Display the sales goal for the current year

STEP 4b: Calculate the sales goal for the next year

STEP 4c: Continue until number of years has been reached

STEP 5: Save the file as goals.py

STEP 6: Compile and run your program.

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| **Lab 6.6** |

**Objectives:**

* The while Loop
* Nested Loops

You have been asked to create an application that displays a series of at least four survey questions; the survey can be on any topic you want, and each question should have at least three possible numeric-choice answers. At the end of the survey, ask the user whether they want to (1) enter another set of responses to the same set of questions, or (2) quit. Continue to accept sets of responses until the user chooses to quit, and then display the results of the survey—for each question indicate how many users chose the first option, second option, and so on. Ensure your program contains appropriate comments.

Follow the steps to create the program:

STEP 1: Create variables to hold the counts for how many times each option to each question was selected.

STEP 2: Create a loop that will execute until the user quits

STEP 2a: For each question in the survey perform the following steps

* + 1. Display the question and possible answers
    2. Accept user’s response.
    3. Ensure that the user’s response is valid and re-prompt if not.
    4. Increment total for option selected.

STEP 2b: Prompt the user to enter whether they want to enter another set of responses to the same set of questions or quit

STEP 3: Display the totals for each option to each question

STEP 4: Save the file as survey.py

STEP 5: Compile and run your program.