**Pseudocode**

Functions:

Set and Get functions for private variables.

Print Details:

Print a line of output data consisting of the year index, balance and interest earned.

Balance without monthly deposits:

Use a for loop to loop through each year.

Set the interest earned that year equal to the balance times the monthly interest rate times 12.

Add the interest to the balance.

Send both values to Print Details.

Balance with monthly deposits:

Use a for loop to loop through each year.

Within this loop, use another for loop to loop through each month.

Inside the month for loop, set monthly interest earned as (balance plus monthly deposit) times monthly interest rate.

Add monthly interest earned to the yearly interest earned.

Add the monthly deposit to the balance.

Add the monthly interest earned to the balance.

Outside of the month for loop, send the balance and interest earned to Print Details.

Check If Valid:

Use a while loop in case input is invalid and we need new input.

If the input starts with a ‘$’ or ‘%’, erase said character.

Try to convert the input from string to double.

If the input is greater than or equal to 0, break the while loop.

Otherwise, throw a runtime error.

If any exceptions are thrown, get new input from user.

Outside of the loop, return the validated user input.

Main:

Use a while loop to allow the user to continue using the program until they are finished.

Inside the loop, prompt the user to enter initial investment amount.

Send input to Check If Valid.

Prompt the user to enter monthly deposit.

Send input to Check If Valid.

Prompt the user to enter annual interest.

Send input to Check If Valid.

Prompt the user to enter years.

Use a while loop in case input is invalid and we need new input.

Try to convert the input from string to int.

If input is greater than 0, break the loop.

Otherwise, throw a runtime error.

If any exceptions are thrown, get new input from user.

Outside of the loop, initialize a Bank Calculator object with the user input parameters.

Call the Balance without monthly deposits function.

Call the Balance with monthly deposits.

Prompt the user as to whether they wish to input new values.

If yes, continue the while loop.

Otherwise, break the loop.