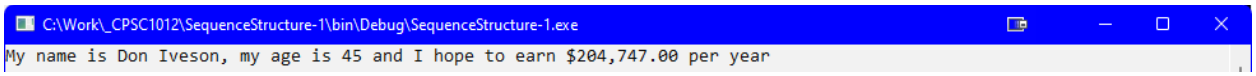
Sequence Structure Programming Exercises

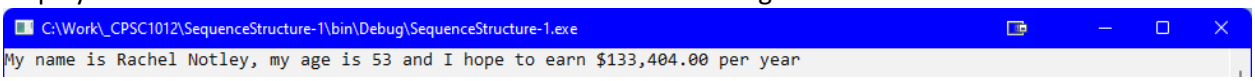
1. Write a program that displays the message with your name, your age, and your expected annual salary. Here is a sample run:



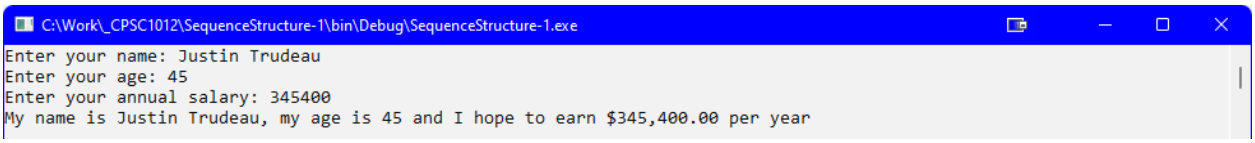
Modify the program to declare the following:

- A **`string`** variable named **name**
- An **`int`** variable named **age**
- A **`double`** variable named **annualPay**

Store your age, name, and desired annual income as literals in these variables. The program should display these values on the screen in a manner like the following:



Modify the program to prompt the user to enter their name, age, and annual pay. Here is a sample run:



2. Write a program that reads in the radius and length of a cylinder and computes the area and volume using the formulas:

$$area = radius \times radius \times \pi$$
$$volume = area \times length$$

Here is a sample run:

3. Write a program that prompts the user to enter the side of a hexagon and displays its area. The formula for computing the area of a hexagon is:

$$area = \frac{3\sqrt{3}}{2}s^2$$

Where **s** is the length of the side. Here is a sample run:

4. Write a program that reads an integer between 0 and 1000 and adds all the digits in the integer. For example, if an integer is 932, the sum of all its digits is 14.
   Hint: Use the % operator to extract digits and use the / operator to remove the extracted digit. For instance, $932 \% 10 = 2$ and $932 / 10 = 93$. Here is a sample run:

5. If you know the balance and the annual percentage interest rate, you can compute the interest on the next monthly payment using the following formula:

$$futureInvestmentValue = invesgtmentValue \times (1 + monthlyInterestRate)^{numberofYears \times 12}$$

   where $monthlyInterestRate$ is the $annualInterestRate / 12 / 100$.

   For example, if you enter an amount 1000, annual interest rate 3.25%, and number of years 1, the future investment value is 1032.98. Here is a sample run: