1. **Restaurant Bill.**
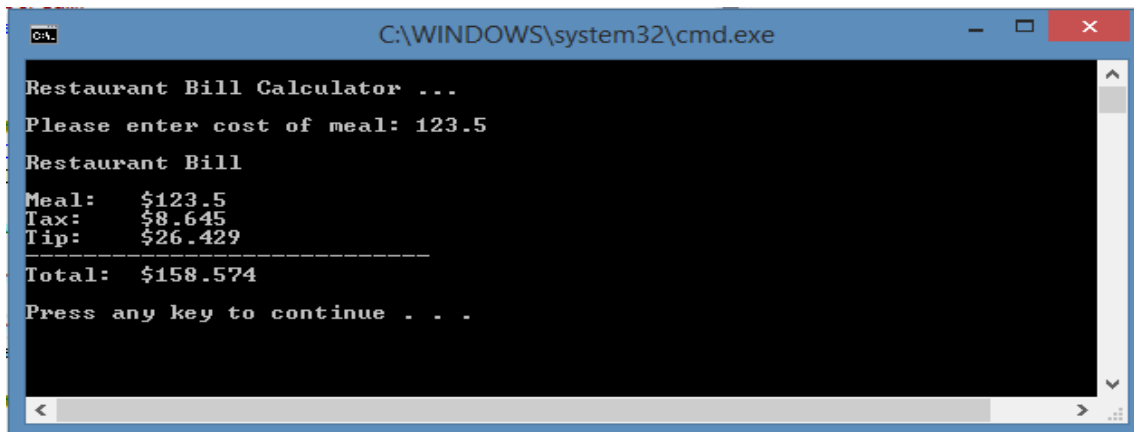
Write a program that prompts the user for the meal cost of a restaurant bill and calculates and displays the tax and tip on the restaurant bill. The tax should be 7% of the meal cost. The tip should be 20% of the total after adding the tax. Display the meal cost, tax amount, tip amount, and total bill on the screen.
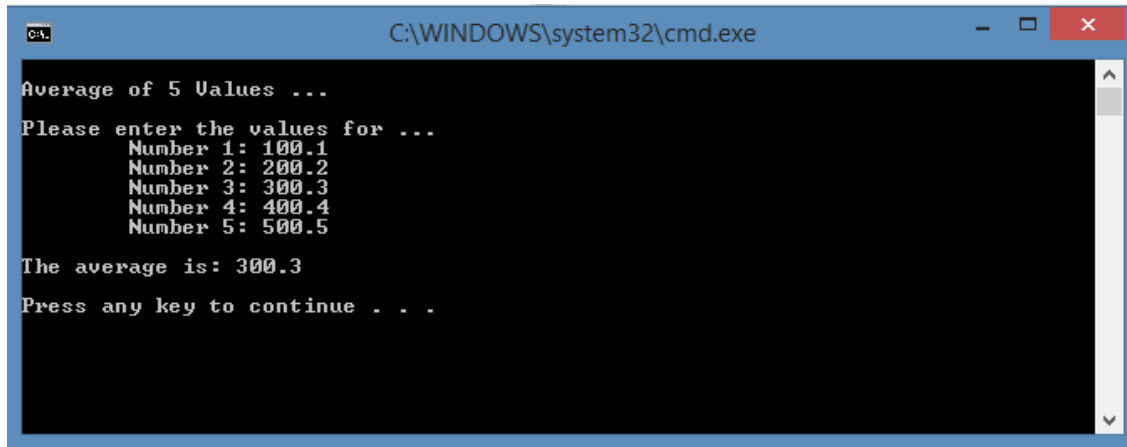
restaurant.cpp

Output Sample

2. Average of Values.

To get the average of a series of values, you add the values up and then divide the sum by the number of values. Write a program that prompts the use for five scores, calculates the average and displays the result on the screen.

average5.cpp

Output Sample:

```
C:\WINDOWS\system32\cmd.exe                                    -  □  ×

Average of 5 Values ...

Please enter the values for ...
        Number 1: 100.1
        Number 2: 200.2
        Number 3: 300.3
        Number 4: 400.4
        Number 5: 500.5

The average is: 300.3

Press any key to continue . . .
```
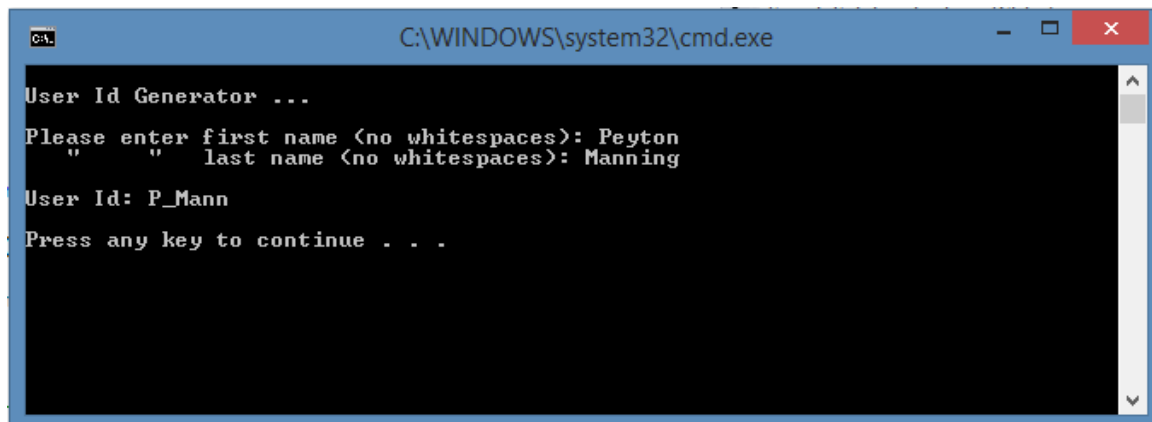
3. User Id.

Write a program that creates a user id such that the user id. I   s comprised of the first letter of the user's first name, followed by an underscore '_' character, followed by the first four letters of the user's last name.

userId.cpp

Output Sample:

```
C:\WINDOWS\system32\cmd.exe                                    -  □  ×

User Id Generator ...

Please enter first name (no whitespaces): Peyton
       "      "    last name (no whitespaces): Manning

User Id: P_Mann

Press any key to continue . . .
```

4. Diamond Pattern

Write a program that displays the following pattern:

```
      *
    * * *
  * * * * *
* * * * * * *
  * * * * *
    * * *
      *
```

Note: Use string constants in your implementation

pattern.cpp