

**CSC 1300 LAB 2 Purple**

**Spring 2023, January 30, 2023 through February 3, 2023**

# Concepts

* Variable Definitions and use
* Calculations using math expressions
* Data types
* Simple input & output

# Getting Started - Organize Your Files

1. In your **CSC1300LAB** folder, create a **Lab2Purple\_yourTTUusername** (replacing “**yourTTUusername**” with   
   **YOUR TTU username** (the part before @tntech.edu) folder.
2. Open **Visual Studio Code (VS Code)**.
3. Click on **File** and then select **Open Folder**. Select the **Lab2Purple\_yourTTUusername** folder that you just created.

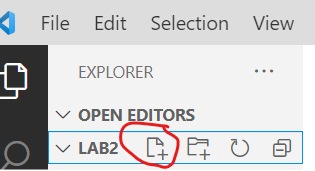
# Lab 2A

## The Story

Nematodes (parasitic worm-like species) have been eating away SpongeBob’s precious items. He decided to tame them into his obedient pawns. He used his nose as a flute to tame the nematodes. However, he only has limited amount of space in his territory. He did a head count of all the nematodes that he tamed.

## Directions

1. In **VS Code**, click on the **New File** icon to create a new file in the **Lab2Purple\_yourTTUusername** folder.   
   
2. Type **lab\_2a.cpp** to create a new file with that name.
3. Assume that SpongeBob has **five houses**, write a program that will allow him to enter the **number of nematodes that he tamed** and find **the number of nematodes that will live in each house**.
4. Make sure the program compiles with **no syntax errors**.
5. **Test** your program to ensure it looks and behaves like the sample output below.

## Sample Output

User input is highlighted in **yellow**.

**Enter the number of nematodes tamed: 150**

**Number of nematodes that will be assigned to each of the 5 houses: 30 nematodes**

# Lab 2B

A group of puppies

Description automatically generated with medium confidence

## The Story

You are the owner of a pet store and trying to figure out the weekly cost of pet food for each puppy. On average, puppies at your store eats **2 cups of food a day** and **each cup of food costs $3**.

## Directions

1. In **VS Code**, click on the **New File** icon to create a new file in the **Lab2Purple\_yourTTUusername** folder.
2. Type **lab\_2b.cpp** to create a new file with that name.
3. Write a program that allows the user to enter the number of puppies that you have in your store so that it will calculate
   1. the amount of pet food needed per **day**, and
   2. the estimate cost of the total pet food per **week**.
4. Make sure the program compiles with **no syntax errors**.
5. **Test** your program to ensure it looks and behaves like the sample output below.

## Sample Output

User input is highlighted in yellow.

Puppy Food Cost Calculator

Please enter the number of puppies: 6

The amount of pet food needed per day: 12 cups

The total cost of pet food per week: $252

# Lab 2c

Graphical user interface

Description automatically generated

## The Story

You bought a PS5 console **three months** ago. For **each month**, you buy **three games** that are on sale.

## Directions

1. In **VS Code**, click on the **New File** icon to create a new file in the **Lab2Purple\_yourTTUusername** folder.
2. Type **lab\_2c.cpp** to create a new file with that name.
3. Write a program that will ask the user for the name of the month and the price of each game for three months.
4. Then, your program should calculate:
   1. how much money you have spent on games each month,
   2. the total amount spent over the three months, and
   3. the average cost of all 9 games.
5. Format your output. All your floating-point numbers printed to the screen must be printed with only **2 digits printed after the decimal point** and should have a **dollar sign**.
6. Make sure the program compiles with **no syntax errors**.
7. **Test** your program to ensure it looks and behaves like the sample output below.

## Sample Output

User input is highlighted in **yellow**.

Note: The name of Games can be named anything you want. E.g., Game 1 can be Spiderman, Game 2 can be God of War and so on.

**Enter the month: January**

**Price of Game 1: $50.00**

**Price of Game 2: $29.99**

**Price of Game 3: $30.99**

**Total cost of all three games for January: $110.98**

**Enter the month: February**

**Price of Game 1: $34.99**

**Price of Game 2: $59.99**

**Price of Game 3: $19.99**

**Total cost of all three games for February: $114.97**

**Enter the month: March**

**Price of Game 1: $27.50**

**Price of Game 2: $48.99**

**Price of Game 3: $99.99**

**Total cost of all three games for March: $176.48**

**Total amount spent over the three months: $402.43**

**Average price per game: $44.71**

**What to Turn In**

**Compress/zip** the **Lab2Purple\_yourTTUusername** folder and upload it to the ilearn assignment folder named **Lab 2**.