



# Tennessee TECH

## CSC1310: LAB 4

### CONCEPTS

- Standard Template Library
- Vector ADT

### DESCRIPTION

#### *Moon Pies*



Jane steals moon pies from her brother on a regular basis. Write a program that will keep statistics on her moon pie stealing habit.

### SPECIFICATIONS

Write a program named **moonpie.cpp**. All your code will be in this one file.

- Create a vector named `moonPieArray`.
- Ask how many days Jane stole moon pies.
- Create a function called `enterStolenMoonPies` and call this function from your main function. You will send the vector & number of days to this function. You will populate the vector by asking the user how many moon pies Jane stole on each day. **NOTE: Are Vector ADTs passed by VALUE or REFERENCE?**
- Then, create a function called `totalMoonPies` and call this function from your main function. You will send the vector & number of days to this function. In this function, you will figure out how many moon pies in total has been stolen by Jane – then return this value back to main.

- Then, create a function called **averageMoonPies** and call this function from your main function. You will send the number of days, and the total # moon pies stolen to this function. In this function, you will figure out the average number of moon pies that were stolen per day – then return this value back to main.
- Then, create a function called **highestMoonPies** and call this function from your main function. You will send the vector & number of days to this function. In this function, you will figure out the most moon pies Jane stole in a single day and then return this value back to main.
- Then, create a function called **lowestMoonPies** and call this function from your main function. You will send the vector & number of days to this function. In the function, you will figure out the least number of moon pies Jane stole in a single day and then return this value back to main.
- Last, print out the total, average, highest & lowest in an easy-to-read way in the main function. Refer to sample output for formatting.

## SAMPLE OUTPUT

```
C:\Windows\System32\cmd.exe

C:\Users\acrockett\Desktop\CSC\CSC Fall 2018\CSC1310-001\LABS\LAB 4>g++ moonpie.cpp

C:\Users\acrockett\Desktop\CSC\CSC Fall 2018\CSC1310-001\LABS\LAB 4>a

How many days did Jane steal moon pies?
5

Enter the number of moon pies stolen each day.

DAY 1: 3
DAY 2: 6
DAY 3: 1
DAY 4: 7
DAY 5: 2

-----RESULTS-----
TOTAL # MOON PIES STOLEN: 19
AVERAGE # MOON PIES STOLEN PER DAY: 3.8
MOST # MOON PIES STOLEN IN ONE DAY: 7
LEAST # MOON PIES STOLEN IN ONE DAY: 1

C:\Users\acrockett\Desktop\CSC\CSC Fall 2018\CSC1310-001\LABS\LAB 4>
```

## WHAT TO TURN IN

Zip all the following files and upload to ilearn.

- moonpie.cpp
- RUN
- Makefile
- TEST\_CASE.txt