

COSC 1436 – LAB3

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TILLE**:** Read Input from keyboard with cin, getline(), cin.get() – Week Exercise Report

TIME TO COMPLETE**:** two weeks

# HOW TO DO PART 3 – part2

Remember to do the lab with the following:

*\*If you need help in the C++ syntax to write the code, read the instruction in the folder “HOW TO DO LAB”*

*\*From now and on yourLastName will be changed to your last name*

*\*Your program should change Smith to your last name*

*\*Change James Smith to your full name*

*\*****write the file name as the first comment line at the top of program***

*\*After running your program, take the picture of the output window as below from your program with* ***your name*** *on and paste the picture at the bottom of the document having pseudo-code to turn in*

 -

## Step1:

Read the requirement; **write in English the pseudo-code** in a word document by listing the step by step what you suppose to do in main() and then save it with the name as **Lab3\_pseudoCode\_yourLastName**

(store pseudo-code and output pictures of both part 1 and part 2)

## **Step2**:

Start Virtual Studio C++, create the project 🡪 write the project name

 For Part 2: FA2021\_LAB3PART2\_yourLastName

Add .cpp file

 For Part 2: FA2021\_WeekExerciseReport\_yourLastName.cpp

After adding the cpp file, you have an empty window coming up, type the following template of a C++ program in:

//File name should be written here as comment line

#include <iostream>

using namespace std;

**int** main()

{

 //add the code here below this line

 …..

 system(“pause”); //This will pause the output to read

 return 0;

}

## Step3:

Then follow the step by step in the pseudo-code, type the C++ code in after the line “//add the code here below this line”

## Step4:

Compile and run the program

## Step5:

Debug if there are any errors until compile successfully

# LAB3 - PART1 REQUIREMENT

Use a word document to write the answers of the following questions:

## Question 1: ( needs 3 answers from 3 times run the following code with 3 provided input case a, case b, case c)

We have the following lines of code:

#include <iostream>

using namespace std;

int main()

{

 float fvar1, fvar2;

 int ivar;

 char cvar;

 cout << "Enter two decimal numbers, one integer number and one character : " << endl;

 cin >> fvar1 >> fvar2 >> cvar >> ivar;

 cout << fvar1 << “ - “ << fvar2 << “ – “ << cvar << “ – “ << ivar << endl;

 system("pause");

 return 0;

}

**What are three output** you get after you run the above lines of code three times and each time, provide one of the following input:

Input of case a: 21.75 7.28 F21

Input in case b: 32 23.51 A24.4

Input in case c: 51.21 .32 454 LL

## Question 2: (need 5 answers for case a to case e with the same provided input)

We have the following lines of code:

#include <iostream>

using namespace std;

int main()

{

 int ivar;

 double dvar;

 char cvar;

 //**case a**

 //READ INPUT FROM THE KEYBOARD

 cout << "Enter one integer number, one character, one decimal number : " << endl;

 cin >> ivar >> cvar >> dvar;

cin.ignore(80, '\n');

 //DISPLAY OUTPUT

 cout << ivar << " - " << cvar << " - " << dvar << endl << endl;

 //**case b:**

//READ INPUT FROM THE KEYBOARD

 cout << "Enter one decimal number, one integer number, one character : " << endl;

 cin >> dvar >> ivar >> cvar;

 cin.ignore(80, '\n');

 //DISPLAY OUTPUT

 cout << dvar << " - " << ivar << " - " << cvar << endl << endl;

 //**case c**:

 //READ INPUT FROM THE KEYBOARD

 cout << "Enter one integer number, one character, one decimal number : " << endl;

 cin >> ivar; cin.get(cvar); cin >> dvar;

 cin.ignore(80, '\n');

 //DISPLAY OUTPUT

 cout << ivar << " - " << cvar << " - " << dvar << endl << endl;

 //**case d:**

 //READ INPUT FROM THE KEYBOARD

 cout << "Enter one carácter, one integer number, one decimal number : " << endl;

 cin >> cvar >> ivar >> dvar;

 cin.ignore(80, '\n');

 //DISPLAY OUTPUT

 cout << cvar << " - " << ivar << " - " << dvar << endl << endl;

 //**case e**:

 //READ INPUT FROM THE KEYBOARD

 cout << "Enter a character, one integer, one decimal number : " << endl;

 cin.get(cvar); cin >> ivar >> dvar;

 cin.ignore(80, '\n');

 //DISPLAY OUTPUT

 cout << cvar << " - " << ivar << " - " << dvar << endl << endl;

 system("pause");

 return 0;

}

Run the above code and provide the same input “**2021 9 20.21”** at each time the program asks for input

**What are the five output** from each above cases you have from the program?

## Question 3: (need 2 output from case a, case b with the same provided input)

we have the following lines of code:

#include <iostream>

#include <string>

using namespace std;

int main()

{

 char cvar;

 string svar1, svar2;

 cout << “Enter a string: “;

 cin >> svar1;

 **cin.get(cvar);**

 getline(cin, svar2);

 cout << svar1 << " - " << cvar << " - " << svar2 << endl << endl;

 cin.ignore(80, '\n');

 cout << “Enter a string: “;

 cin >> svar1;

 **cin >> cvar;**

 getline(cin, svar2);

 cout << svar1 << " - " << cvar << " - " << svar2 << endl << endl;

 system("pause");

 return 0;

}

Use the same input “**Hello! Good to see you**.” to enter a string for two times asking input.

What are two output from the above program?

## Question 4: (need to provide the correct code of the following code)

During each summer, John and Jessica grow vegetables in their backyard and buy seeds and fertilizer in various bag sizes. When buying a particular fertilizer, they want to know the **price of the fertilizer per pound and the cost of fertilizing per square foot.**

The following program prompts the users to enter the size of the fertilizer bag, in pounds, the cost of the bag and the area, in square feet, that can be covered by the bag. The program should output the desired results, the price per pound and the cost of each square foot fertilize.

However, the program contains logical errors because it has lines of the code are not in correct order.

You should find and move lines of the code back to correct order to fix the logical errors so that the program works properly.

using namespace std;

#include <iostream>

int main()

{

 cout << fixed << showpoint << setprecision(2);

 cout << "The cost of the fertilizer per pound is: $"

 << bagCost / bagSize << endl;

 cout << "The cost of the fertilizer per square foot is: $"

 << bagCost / bagAreaCovered << endl;

 cout << "Enter the amount of fertilizer, in pounds, in the bag: ";

 cin >> bagSize;

 int bagSize;

 cout << "Enter the cost of the " << bagSize

 << " pound fertilizer bag: ";

 cin >> bagCost;

 double bagCost;

 cout << "Enter the area, in square feet, that you want to fertilizer? ";

 cin >> bagAreaCovered;

 double bagAreaCovered;

 system("pause");

 #include <iomanip>

 return 0;

}

# LAB3 - PART2 *REQUIREMENT*

Provide the C++ application that can help the users to report the result of their morning exercise during the week. First, read input from the keyboard the following information:

\*the **name** (String) of the person who is using the program,

\***Start dat**e in the format “mm/dd/yyyy” (string)

\***End date** in the format “mm/dd/yyyy” (string)

\*how many **minutes** (int) users exercise **on each day** (7 integer for 7 days)

\*how many **miles** (float) users walk **in each day** of the week (7 decimal numbers for 7 days)

Then the program will calculate total of time (in minutes), total of distance (in miles), average of time and average of distance

The **output** should as below with the information will be aligned to the right

File name: FA2021\_WeekExerciseReport\_Smith.cpp

Name of the person using the program: MARY LANE

Report of week from: 01/04/2021 to 01/10/2021

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 MON TUE WED THU FRI SAT SUN Total Average

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 Time (minutes): 40 42 45 45 40 42 45 299 42.71

 Distance (miles): 2.00 2.10 1.75 2.25 2.00 2.10 2.25 14.45 2.06

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The following picture is the output window from the program:



# HOW TO TURN IN THE LAB

You turn in the following files:

LAB3PART1\_ yourLastName.docx (part1)

pseudoCode and output pictures of the part 2

FA2021\_WeekExerciseReport\_yourLastName.cpp

FA2021\_LAB3PART2\_yourLastName.exe

IF YOU GET ANY PROBLEM TO SUBMIT FILE .class, YOU CAN SUBMIT ALL PROJECT INTO ONE FILE .zip or .rar

# HOW TO GRADE THE LAB

| ITEMS TO GRADE | MAX SCORE |
| --- | --- |
| TURN IN THE LAB ON TIME | 3 |
| Part1: question 1 | 3 |
| Part1: question 2 | 4 |
| Part1: question 3 | 2 |
| Part1: question 4 | 2 |
| PART2 |  |
| Pseudo-code – output pictures | 1 |
| Define variables to hold values from input | 2 |
| Calculate the sum of time and sum of distance | 2 |
| Calculate the average of time and average of distance | 2 |
| Output as required format with alignment, average of time and distance in decimal with 2 digits | 4 |
| Compile success qualify the requirements | 3 |
| Comments – File name as the first comment line | 2 |
| Total Scores | 30 |