Answer sheet Lab1

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**Group**: **1B**

***Form to be completed and submitted on Moodle.***

***Use a different color (or a box) for your answers.***

***Do your best with English. If you are stuck ask your professor!***

Exercise 1:

d) In what directory are contained the source code files of the project (ex : main.cpp) ?

Z:\Documents\C++\Lab1\ex1

e) In what directories are contained the executable file and the object file?

Z:\Documents\C++\Lab1\ex1\bin\Debug (executable)

Z:\Documents\C++\Lab1\ex1\obj\Debug (object)

For both questions, be sure to give the complete paths, including directories and file names.

Exercise 2:

f) What's the purpose of the compilation process?

The purpose of the compilation process is to detect errors before trying to execute a program.

g) What display do you get when running your program after correcting all compilation errors? Why?

Output: Here is the area of your circle: area

This error occurs because the variable has been put inside the quotes so it is interpreted as plain text by the compiler.

Exercise 3:

b) What happens during compilation? Copy the error message and explain it.

error: 'n' was not declared in this scope

The program uses the variable ‘n’, which has not been declared beforehand, causing an error.

c) In which bloc(s) can the variable ***n*** be declared? Why?

The variable ‘n’ can be declared in the b1 and b3 bloc, because the variable is used in the b3 bloc, and the b3 bloc is a part of the b1 bloc.

d) How do you explain the value that is displayed?

We do not assign any value to ‘n’, so the default value is 0.

Exercise 4:

What is the name of the executable file and in which directory is it?

The file is named “ex4.exe”.

Z:\Documents\C++\Lab1\ex4\bin\Debug

How can you run the program outside of Code::Blocks?

You can open the executable “ex4.exe” file to run it.

Can you do this on all platforms?

You can only do this on a system that can run .exe files (MS-DOS systems can do this, but you can also do it on UNIX systems using tools like “Wine”).

Exercise 5:

*Copy your source code here, with the tests that you performed (What values? What are the expected results?)*

#include <iostream>

using namespace std;

int main() {

double var1;

double var2;

cout << "Enter the value of the first variable." << endl;

cin >> var1;

cout << "Enter the value of the second variable." << endl;

cin >> var2;

// display the variables

cout << var1 << " " << var2 << endl;

// swap the variables

double var3 = var1;

var1 = var2;

var2 = var3;

// display again

cout << var1 << " " << var2 << endl;

}

Tests:

Enter the value of the first variable.

1

Enter the value of the second variable.

2

1 2

2 1

Enter the value of the first variable.

21

Enter the value of the second variable.

3

21 3

3 21

Exercise 6:

b) What is displayed with the values 10 and 3? Why?

10/3 = 3

Process returned 0 (0x0)

The program works as intended, because here our variables are two integers, which means we’re doing an Euclidian division.

With the values 10 and 0? Why?

10

0

Process returned -1073741676 (0xC0000094)

The program does not output a result but an error, so it does not work with a null divider.

c) Same questions after having changed x from int to double.

Please give me two numbers

10

3

10/3 = 3.33333

Process returned 0 (0x0)

The program works because x is now a double and can be divided to a decimal number.

Please give me two numbers

10

0

10/0 = inf

Process returned 0 (0x0)

The program returns an infinite value because dividing by 0 does not return a number.

Exercise 7:

* *Copy your source code here, with the tests that you performed (What values? What are the expected results?)*

#include <iostream>

using namespace std;

int main() {

int temp;

float avg;

// Enter variables

cout << "Enter 3 temperatures you recorded during the day." << endl;

cin >> temp;

avg += temp;

cin >> temp;

avg += temp;

cin >> temp;

avg += temp;

// Calculate and display average temp

avg /= 3;

cout << "The average temperature is " << avg << "." << endl;

return 0;

}

/\*

TESTS

20

20

20

The average temperature is 20.

26

20

23

The average temperature is 23.

20

0

0

The average temperature is 6.66667.

0

0

0

The average temperature is 0.

-20

0

10

The average temperature is -3.33333.

\*/

***When you are done, upload this file onto Moodle, after having changed its name to***

***lab1-YourName.docx***