# Exercise 1

## Exercise 1

In this exercise, I compiled a C++ program named "hello.cpp" using the command-line "cl /EHsc hello.cpp." This command generated two new files, "hello.exe" and "hello.obj." When executing "hello.exe," the program printed "Hello Wolrd!" with a misspelled "Wolrd."

…

*Print-out*

|  |
| --- |
| Hello Wolrd!  ... |

## Exercise 2

To compile "hello.cpp" without linking, I used the command "cl /c hello.cpp," which produced a single file, "hello.obj." Next, I linked "hello.obj" to create the executable file "hello.exe."

…

*Print-out*

|  |
| --- |
| Hello World!  ... |

## Exercise 3

”argc” represents the count of strings in ”argv”, which we add 1 and hope over it as it is the name of the file “hello Hadi Saghir”. However, we can just name it argc (argument count) and argv (argument vector): int main (int argc, char\* argv).

…

*Print-out*

|  |
| --- |
| Hello World! Nice to see you, Hadi Saghir!  ... |

# Exercise 2

## Exercise 4

#include <iostream>

int main(){

int val, sum;

sum = 0;

while(std::cin >> val){

sum += val;

}

std::cout << sum;

}

…

*Print-out*

|  |
| --- |
| [Sum of cin]  ... |

## Exercise 5

To compile "hello.cpp" without linking, I used the command "cl /c hello.cpp," which produced a single file, "hello.obj." Next, I linked "hello.obj" to create the executable file "hello.exe."

…

*Print-out*

|  |
| --- |
| [tumbleweed]  ... |

## Exercise 6

Prints to the console the results of the given numbers

…

*Print-out*

|  |
| --- |
| [sum of numbers]  ... |

## Exercise 7

(sum < terms.txt) > sum.txt (add terms and overwrite in sum.txt)

…

*Print-out*

|  |
| --- |
| [tumbleweed]  ... |

# Exercise 3

## Exercise 8

Filled methods eval and findRoots. Eval just finds y by calculating ax2+bx+c och find roots was found in the library.

}

…

*Print-out*

|  |
| --- |
| [tumbleweed]  ... |

## Exercise 9

Updated poly2.h

* Included vector
* Changed return type

Updated poly2.cpp

* Changed return type and edit method accordingly

Updated polysolver.cpp

* Include vector and include poly2.cpp instead of poly2.h
* Added method printRoots before main so it’s defined

…

*Print-out*

|  |
| --- |
| "Root-finding started..." "No real roots."  ... |

## Exercise 10

Read arguments, make sure arguments are argc – 1 % 3 == 0, and then repeat the steps of uppgift 9. I couldn’t get ctrl +x to work, but I used ctrl + c, which is not optimal as it terminates the program, but the program runs faster than the termination.

…

*Print-out*

|  |
| --- |
| "Root-finding started..." "No real roots."  "One real root found. "  ... |

## Exercise 11

I want to avoid std::cin to perserve the control of parameters. (I wrote this before this lab report, idk what I meant tbh)

…

*Print-out*

|  |
| --- |
| [tumbleweed]  ... |

## Exercise 12

I added std::fabs() and compare it to epsilon. I encountered Epsilon in deep learning as well.

“Epsilon (ε) is a concept that appears in various fields of mathematics and computer science, including deep learning and numerical computations involving floating-point numbers. While the term "epsilon" itself might refer to a small positive constant, its use is tied to the idea of precision, accuracy, and handling numerical errors.”

…

*Print-out*

|  |
| --- |
| [tumbleweed]  ... |

# Exercise 5

## Exercise 13

[tumbleweed]

…

*Print-out*

|  |
| --- |
| [tumbleweed]  ... |

## Exercise 14

Summary of CMake: specify compilation protocols, lists directory, lists classes and finally links where the class can be find.

CMake in MathFunctions: it will be used to link an executable with an actual file in a library (directory).

…

*Print-out*

|  |
| --- |
| [tumbleweed]  ... |

## Exercise 15

Prints to the console the results of the given numbers

…

*Print-out*

|  |
| --- |
| The inverse square root of 9 is 0.332953  ... |

## Exercise 16

After some search, the “correct” call for my version of vs2022 is:

cmake -G "Visual Studio 17 2022" -B invsqrt\_build\_vs invsqrt

Lyckats få det att funka

A screenshot of a computer program

Description automatically generated

…

*Print-out*

|  |
| --- |
| The inverse square root of 9 is 0.332953  ... |