BILKENT UNIVERSITY

ENGINEERING FACULTY

DEPARTMENT OF COMPUTER ENGINEERING

CS 481-Homework#1

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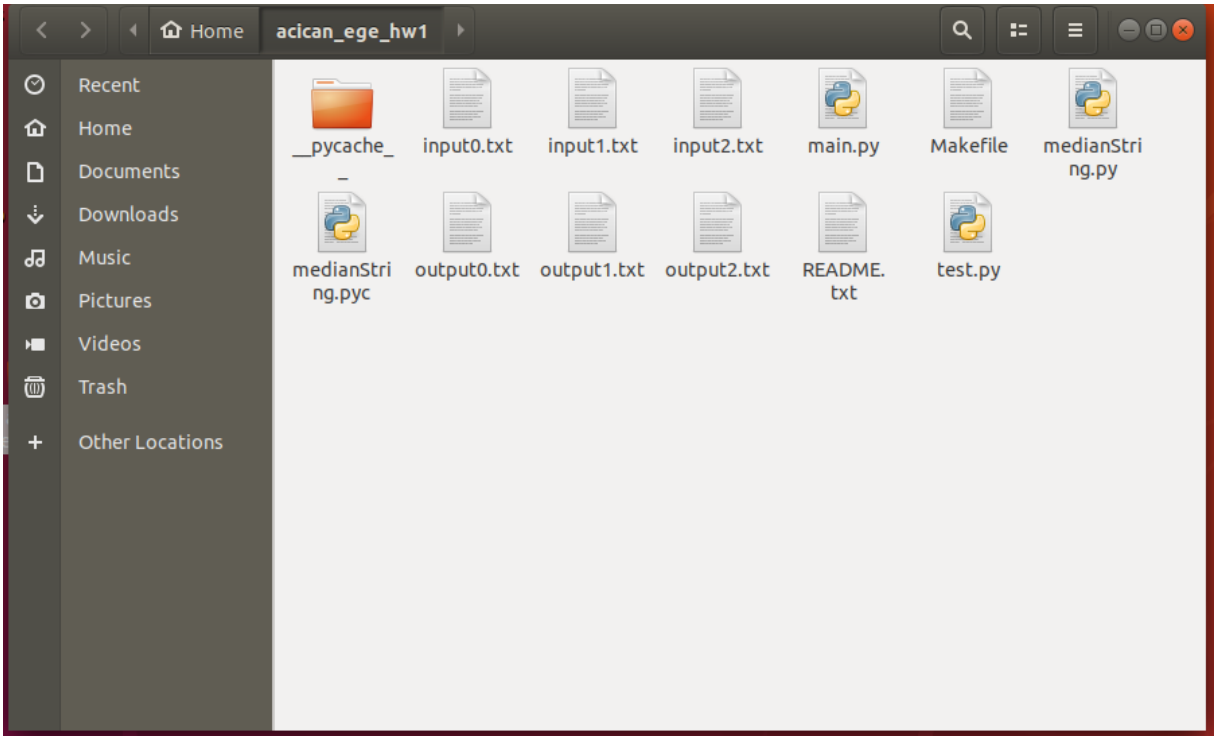

Figure 1:STEP1:Go to the directory where main.py is and text files are located

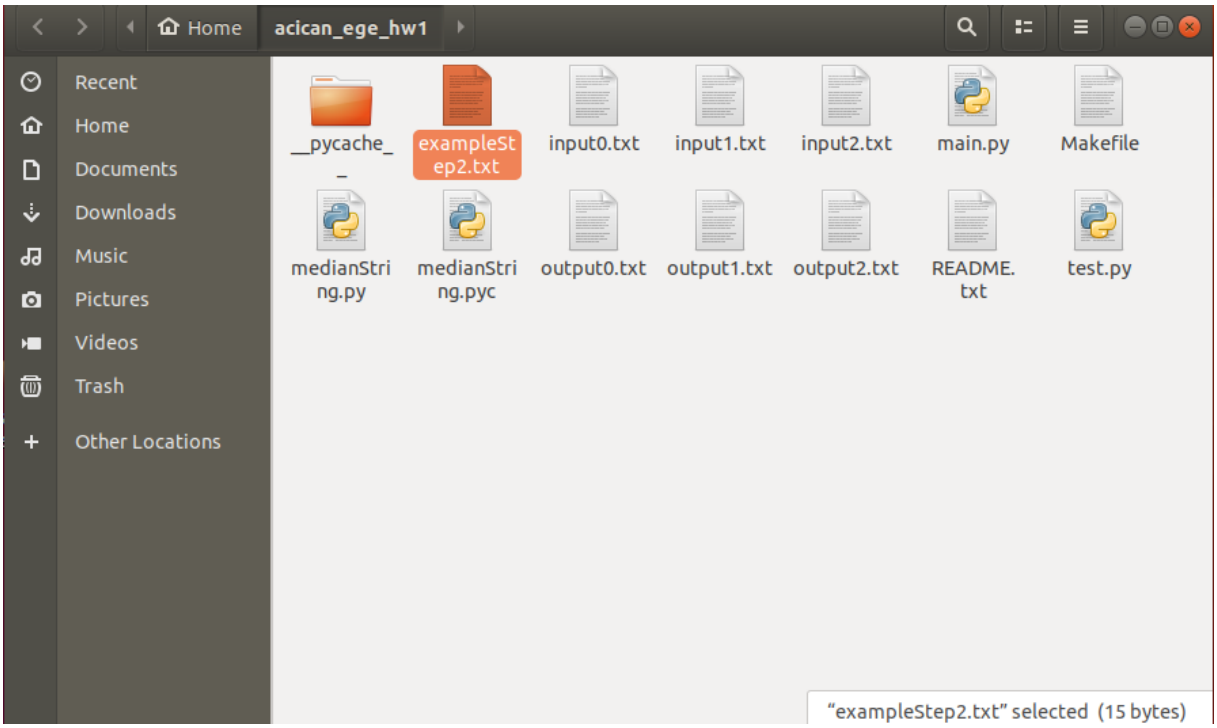

Figure 2: STEP2: Add the desired files to the directory(drag and release)

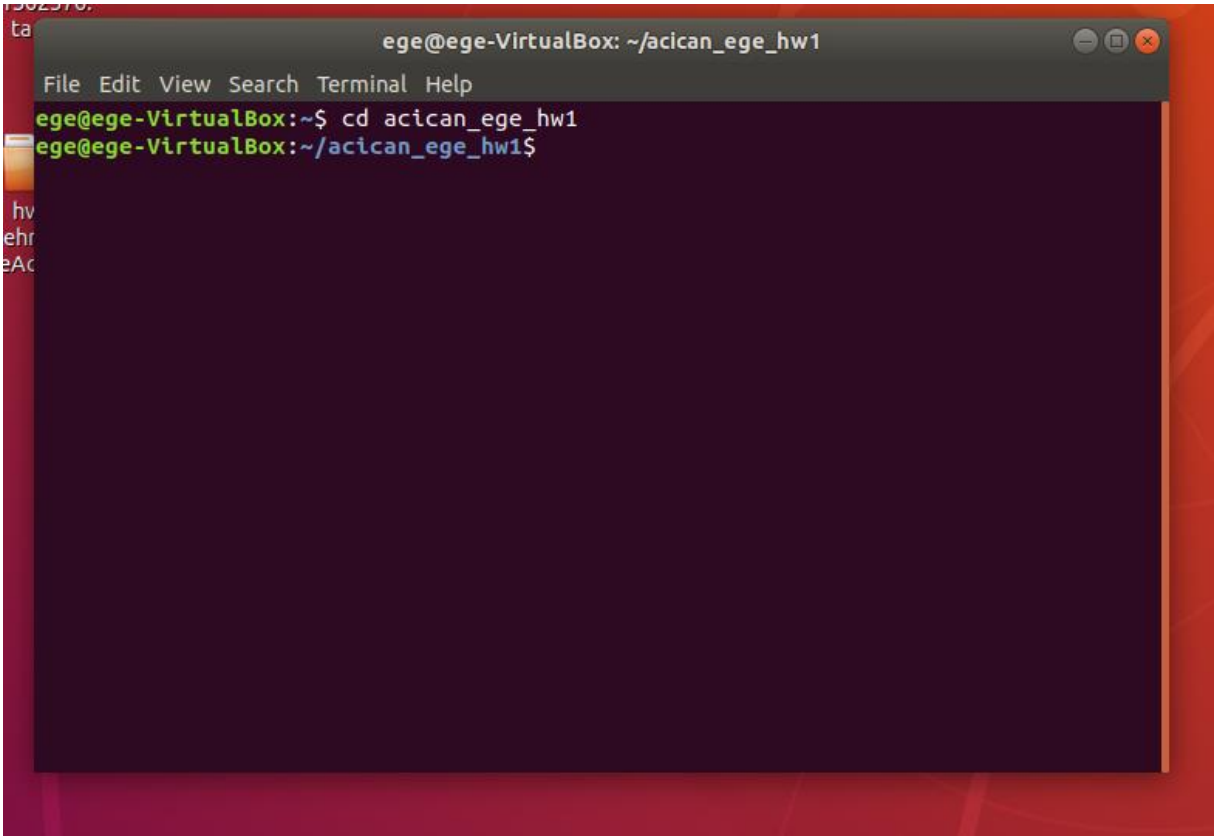

Figure 3: STEP3: In the terminal go to the main directory where main.py and test.py is located

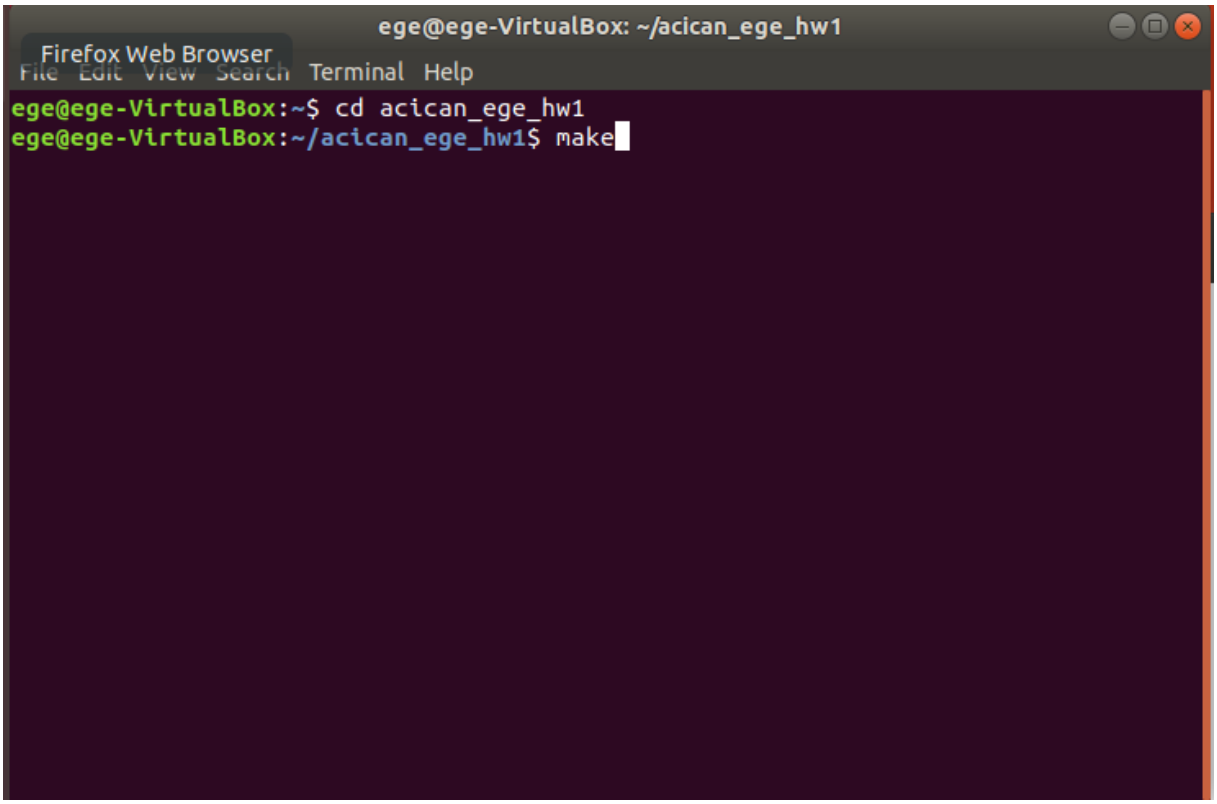

Figure 4:STEP4:type 'make'

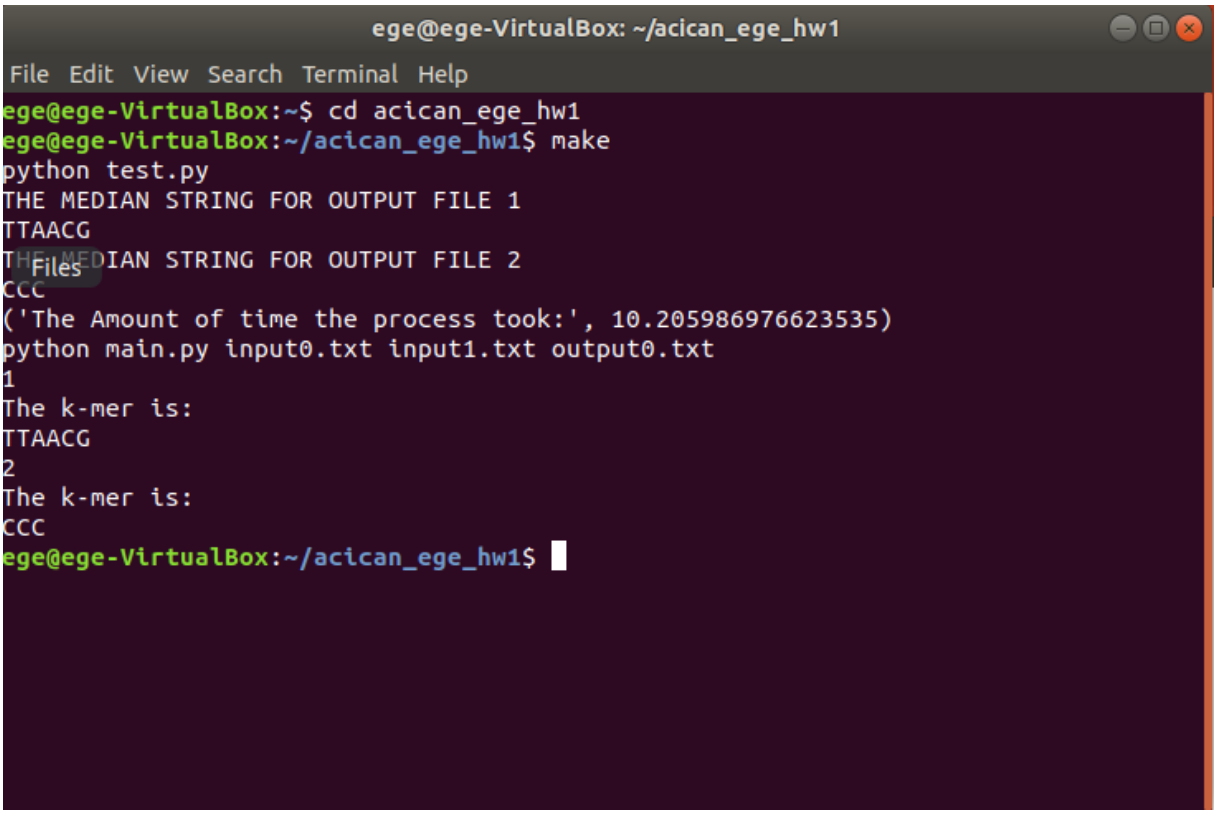

Figure 5:STEP5: Since there is no build stage in python, the makefile automatically runs the codes

First code is test.py which automatically tests the algorithm by using the input0.txt and input1.txt files that are already in the directories and writes the outputs on output0.txt and output1.txt files.

Figure 6:output1.txt

The main.py takes multiple number of input files and at the end writes it to the output file at the final parameter. The 'make' command justs works one example. The desired inputfiles can be tested by typing:

python main.py <desiredinput1.txt>….<desiredinput2.txt> <outputfile.txt>

Examples:

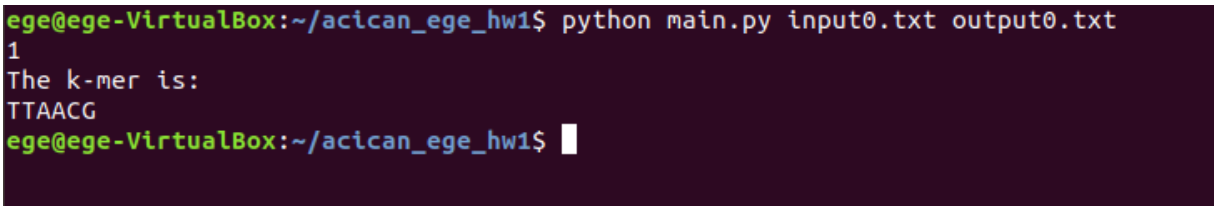

Figure 7:Only input0.txt has been taken as an inputfile parameter

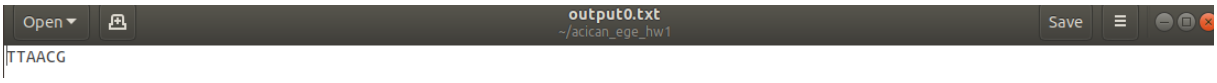

Figure 8:output0.txt after running the code

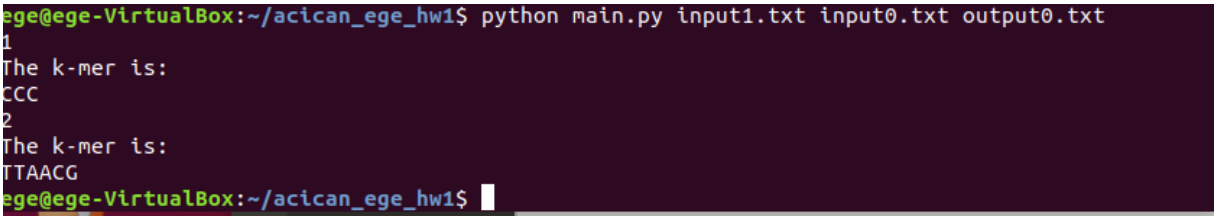

Figure 9:another trial

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\EGE\Desktop\acican_mehmetEge_hw1> python main.py input0.txt input1.txt input2.txt output0.txt
output0.txt
1
The k-mer is: TTAACG
2
The k-mer is: CCC
3
The k-mer is: AGATCCGAA
PS C:\Users\EGE\Desktop\acican_mehmetEge_hw1>
```

Figure 10:tried with input0.txt input1.txt input2.txt

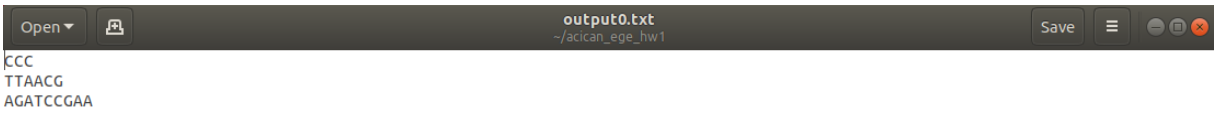

Figure 11:output0.txt after the motifs have been found

IMPORTANT!: When the code gets an input file that tries to find a motif that has a higher length than 7, it takes considerable(!) amount of time to complete the process.

```
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\EGE\Desktop\acican_mehmetEge_hw1> python main.py input0.txt input1.txt input2.txt output0.txt
output0.txt
1
The k-mer is: TTAACG
2
The k-mer is: CCC
3
The k-mer is: AGATCCGAA
PS C:\Users\EGE\Desktop\acican_mehmetEge_hw1> python main.py input0.txt input1.txt input2.txt output0.txt
output0.txt
1
The k-mer is: TTAACG
2
The k-mer is: CCC
3
The k-mer is: AGATCCGAA
The Amount of time the process took: 188.9829214
PS C:\Users\EGE\Desktop\acican_mehmetEge_hw1>
```

Figure 12:Tried on windows Shell, works faster in Windows

```
ege@ege-VirtualBox:~/acican_ege_hw1$ python main.py input1.txt input0.txt input2.txt  output0.txt
1
The k-mer is:
CCC
2
The k-mer is:
TTAACG
3
The k-mer is:
AGATCCGAA
The time that the process took was:
395.325888872
```

Figure 13:Tried on Linux

NOTE: Makefile automatically takes input0.txt, input1.txt and output0.txt as parameters, you can change automatically taken inputs from the makefile

Figure 14:Makefile, you can manipulate the input files here by typing the desired input files(Make sure they are in the same directory)