

COMP-8295  
Course Project  
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## Tasks:

1. I used the FMI code "fmi.py" given in the class.  
Code location: "code/fmi.py"
2. I used "random\_dna()" from "util.py" given in the class. I tweaked it to my own needs. I wrote file saving code myself.  
Code location: "random\_dna()" in "code/util.py"
3. I wrote my own code. No one uses my code.  
Code location: "generateRandomReads()" in "code/util.py"
4. I wrote my own code. No one uses my code.  
Code location: "BuildIndexes()" and "AlignExatcly()" in "code/aligner.py"
5. I wrote my own code. No one uses my code.  
Data location:  
Dataset1: "code/data/dataset1/references/"  
Dataset1 Reads: "code/data/dataset1/reads/"  
  
Dataset2: "code/data/dataset2/references/"  
Dataset2 Reads: "code/data/dataset2/reads/"  
  
Dataset3: "code/data/dataset3/references/"  
Dataset3 Reads: "code/data/dataset3/reads/"  
  
Code location: "generateDataset()" and "generateReads()" in  
"code/datagenerator..py"

6. I wrote my own code. No one uses my code.

Report: AlignExactly with no error:

Code location: "runExperiment1()" in "code/main.py"

	Runtime(sec)	Precision	Sensitivity
Dataset1	109	1.0	1.0
Dataset2	302	1.0	1.0
Dataset3	3802	1.0	1.0

7. and

8. I wrote my own code except "mutate\_one\_base()". No one uses my code.

Code location: "mutate\_one\_base()", "addErrors()" and  
"generateRandomReads()" in "code/util.py"

9. I wrote my own code. No one uses my code.

Report: AlignExactly with 1% error:

Code location: "runExperiment2()" in "code/main.py"

	Runtime(sec)	Precision	Sensitivity
Dataset1	114	1.0	0.001693
Dataset2	316	1.0	0.001883
Dataset3	3916	1.0	0.000910

10. I wrote my own code. No one uses my code.

Code location: "AlignApproximately()" in "code/aligner.py"

11. I wrote my own code. No one uses my code.

Report: AlignApproximately with 1% error:

Code location: “runExperiment3()” in “code/main.py”

	Runtime(sec)	Precision	Sensitivity
Dataset1	104	.97	.95
Dataset2	298	.97	.94
Dataset3	3623	.96	.95

12. Haven’t tried(Bonus)

13. Haven’t tried(Bonus)

How to run:

1. “code/main.py” drives all the experiments.
2. “code/settings.py” has all the related settings