COP5615 – Project 1

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1.Group Members:

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2. No of workers created

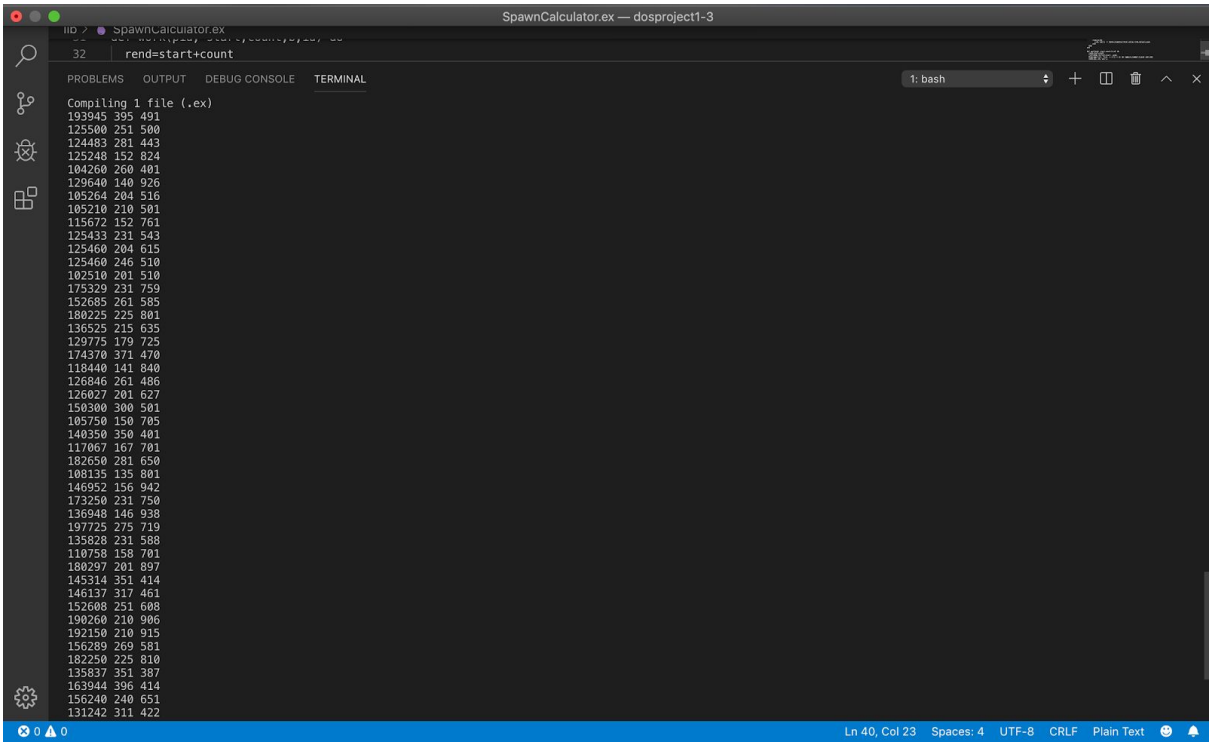
The number of actors created is dynamic based on the given range.Each worker actor is made to work on a certain range of numbers (20, in our case).

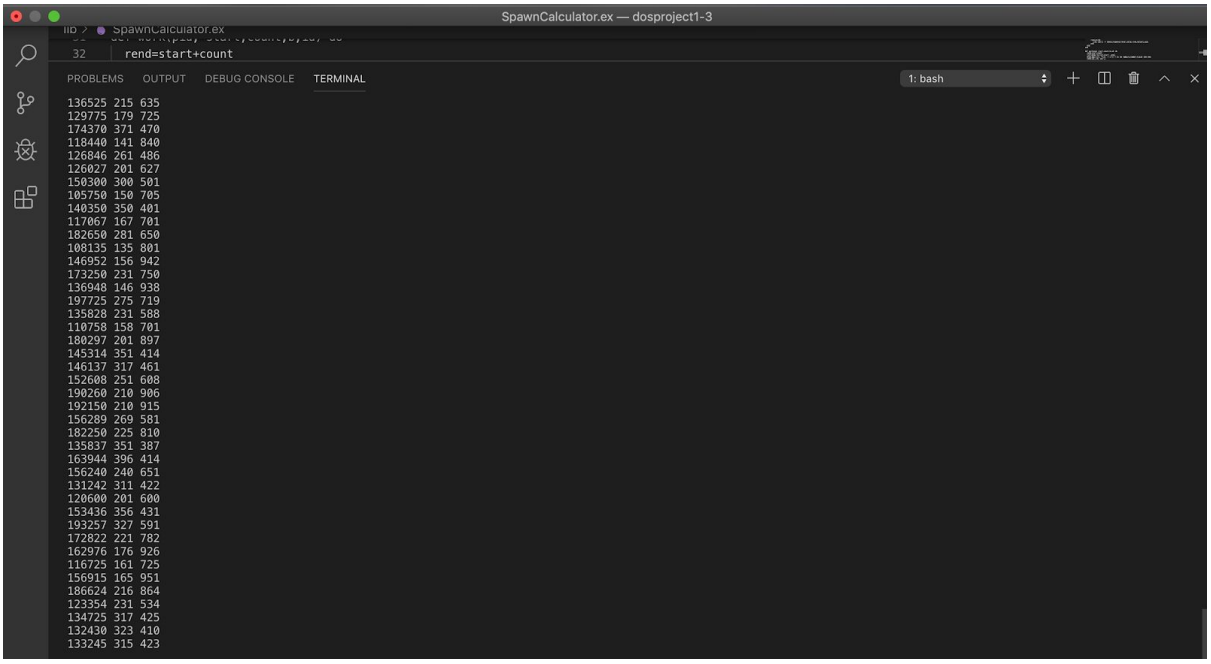
3.Size of the work unit of each worker actor that you determined results in best performance for your implementation and an explanation on how you determined it.

The best performance achieved in our code was for work unit size of 20. Each worker actor processed 20 numbers to give the best performance. The number 20 was achieved by hit and trial and then checking CPU to real time ratio. We did try for numbers like 10,50,100,1000.

4.The result of running your program for: mix run proj1.exs 100000 200000

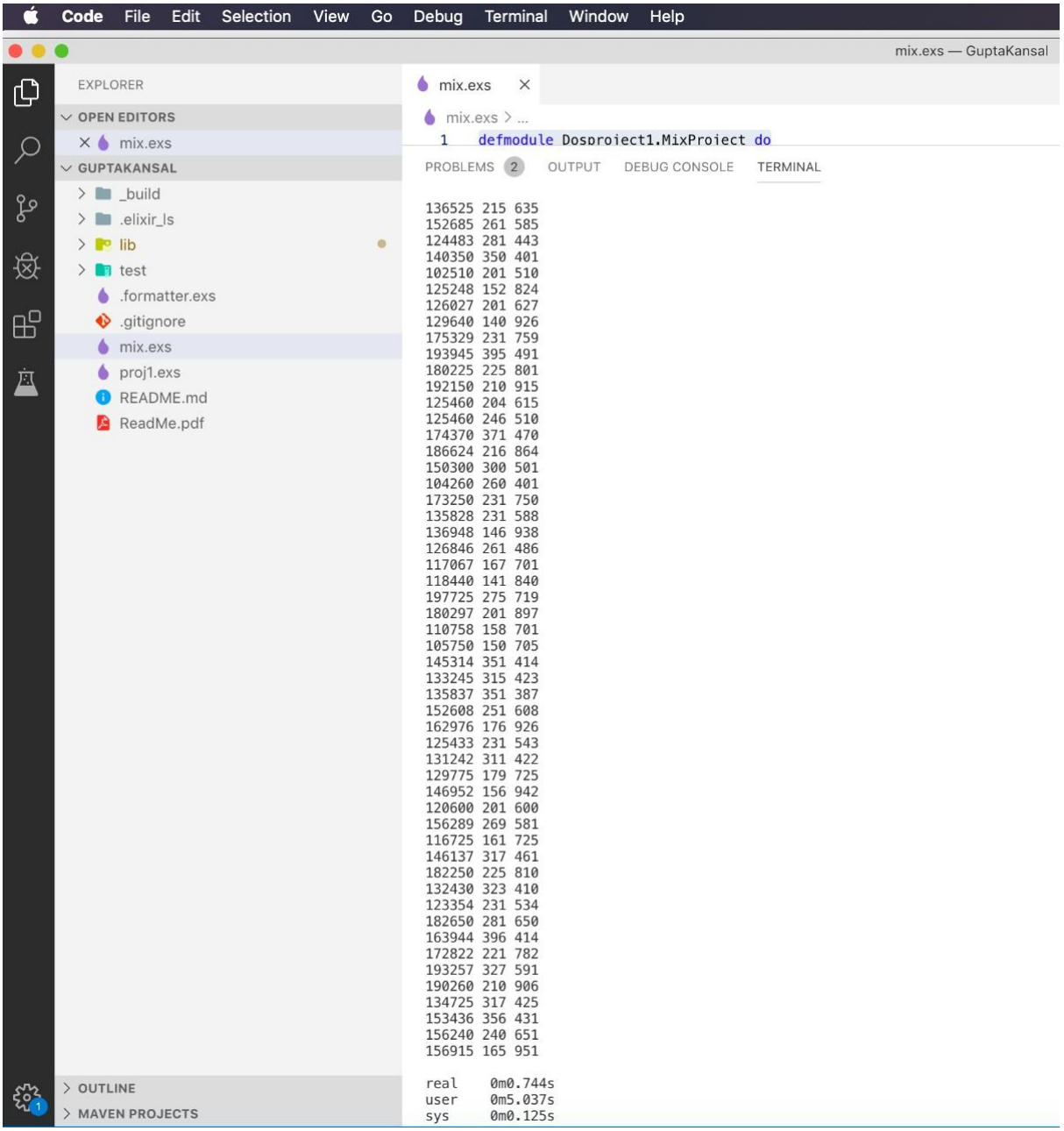
It prints all the vampire numbers and its fangs as shown in the screenshot below.





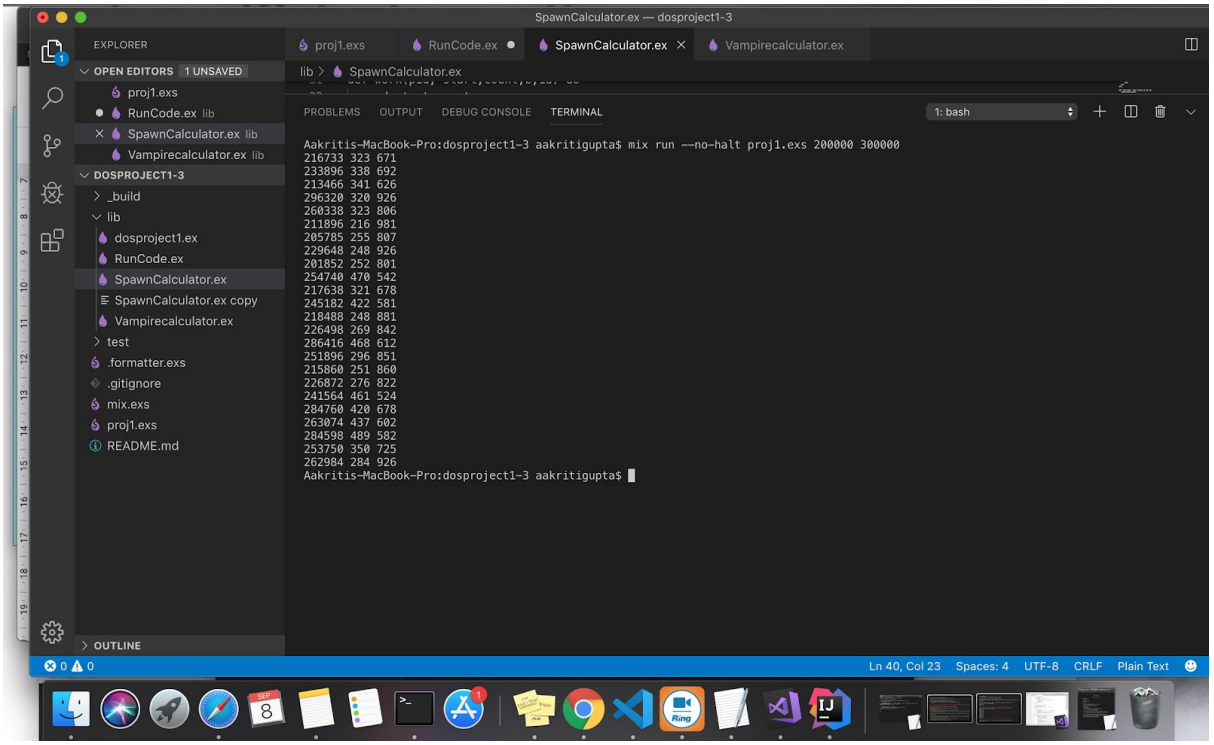
5..Report the running time for the above problem (4). The ratio of CPU time to REAL TIME tells you how many cores were effectively used in the computation. If you are close to 1 you have almost no parallelism (points will be subtracted).

Ratio of CPU and REAL time is on 6.99 8 core machine.



6.The largest problem you managed to solve (For example You can try finding out bigger vampire numbers than 200000).

Tried for running it from 2000000 to 3000000



How to run:

Unzip the folder aakriti_shilpi.zip and save it to some directory

Navigate to the directory where you saved the code

Do: cd aakriti_shilpi

Run the following command: mix run --no-halt proj1.exs <N1> <N2>

Eg. mix run --no-halt proj1.exs 100000 200000