**LAB 07**

MY OBSERVATIONS:

Below mentioned is the time taken to execute functions with different input values:

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| --- | --- | --- | --- |
| METHOD NAME | INPUT | RUNTIME (in millisec) | BIG-O |
| fibIterative | n = 1  n = 2  n = 3  n= 4  n = 5  n =30  n = 40  n = 92 | 0.009394 msec  0.001726 msec  0.002373 msec  0.002388 msec  0.00244 msec  0.003225 msec  0.003722 msec  0.005053 msec | O(n) Linear in n |
| fibOriginalRecursive | n = 1  n = 2  n = 3  n= 4  n = 5  n =30  n = 40  n = 92 | 0.01088 msec  0.00395 msec  0.001908 msec  0.001603 msec  0.002975 msec  164.441513 msec  18945.351307 msec | O(2^n) exponential in n |
| fibFormula | n = 1  n = 2  n = 3  n= 4  n = 5  n =30  n = 40  n = 92 | 0.102972 msec  0.018992 msec  0.00275 msec  0.00334 msec  0.002902 msec  0.001558 msec  0.001623 msec | O(n^2) Quadratic in n |
| fibMyRecursive | n = 1  n = 2  n = 3  n= 4  n = 5  n =30  n = 40  n = 92 | 0.006757 msec  8.98E-4 msec  0.001888 msec  0.002388 msec  0.0017 msec  0.004386 msec  0.004438 msec | O(n) Linear in n |

**What do you conclude from the results of the timing experiment? Did the results correspond to the Big-O estimates of worstTime (n)?**

The Runtime and their corresponding complexity is described using the table above.

**Q. Describe any discrepancies between your hypotheses and test results**.

Ans. There was no discrepancy found between my hypotheses and my test results. The Hypothesis was very well described and the test results confirmed the same.

**Q. What part of this lab gave you the most trouble?**

Ans. Two most troubling part of this lab were:

1. Understanding the lab requirements were a little tricky
2. The usage of recursive function was a bit different by the way I used to do earlier