CIS 3490 Assigment 3 - String Matching Algorithm

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1 Instructions

to run my programs, simply type "make", and execute the individual output files (no commandline arguments needed).

2 Patterns

Here are the patterns I will be using to analyze the efficiency of each algorithm.

1. University
2. carry
3. gender
4. computer
5. name
6. item
7. activity
8. campus
9. grow
10. mark

Performance Ratio

$$Performance\,Ratio = \frac{Number\,of\,Shifts}{Runtime}$$

3 Results

3.1 P21

1. 21,818.85
2. 37,961.69
3. 32,121.30
4. 26,512.77

5. 40,735.80
6. 41,757.93
7. 27,381.75
8. 33,740.51
9. 42,286.44
10. 45,761.27

Average is 27,405.20 shifts per millisecond

3.2 P22

1. 28,968.8
2. 39,987.11
3. 35,448.55
4. 33,556.53
5. 38,683
6. 40,838.17
7. 27,952.82
8. 37,252
9. 44,900.3
10. 42,877.90

Average is 37,046.51 shifts per millisecond

4 Conclusion

From the analysis, we can see that the horspool algorithm which take advantage of a precomputed table to determine how far it can shift at each iteration performs significantly better than the naive method.