

# CIS 3490 Assignment 3 - String Matching Algorithm

James Moreau, 1065510, jmorea03@uoguelph.ca

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## 1 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

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

## 2 Results

### 2.1 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

## **2.2 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

## **2.3 P23**

1. 112,110.03
2. 114,140.39
3. 100,454.38
4. 120,366.1
5. 100,519.07
6. 156,592.55
7. 118,993.84
8. 114,586.66
9. 103,875.73
10. 124,446.73

Average is 116,608.548 shifts per millisecond

## **3 Conclusion**

From the analysis, we can see that algorithms which take advantage of precomputed tables perform much better than naive methods.