

Phong Nguyenho
Ph094398

Part A:

MCF:

```
~/Computer Architecture/Branch
Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 4 1 mcf_trace.txt
GPB: 4 RB: 1 Miss Ratio: 24.712

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 4 2 mcf_trace.txt
GPB: 4 RB: 2 Miss Ratio: 26.8559

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 4 3 mcf_trace.txt
GPB: 4 RB: 3 Miss Ratio: 29.356700000000004

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 4 4 mcf_trace.txt
GPB: 4 RB: 4 Miss Ratio: 31.717499999999998

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ |
```

GOBMK:

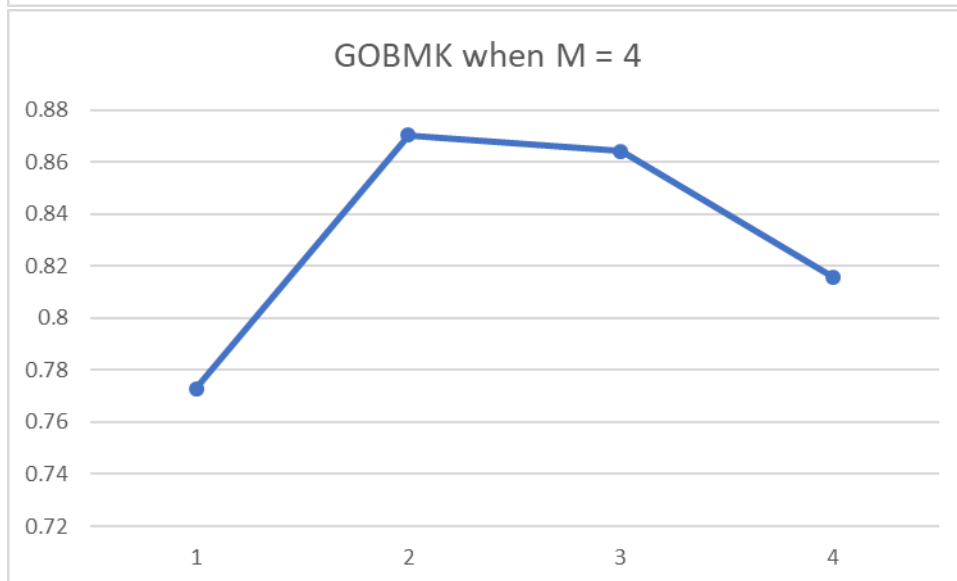
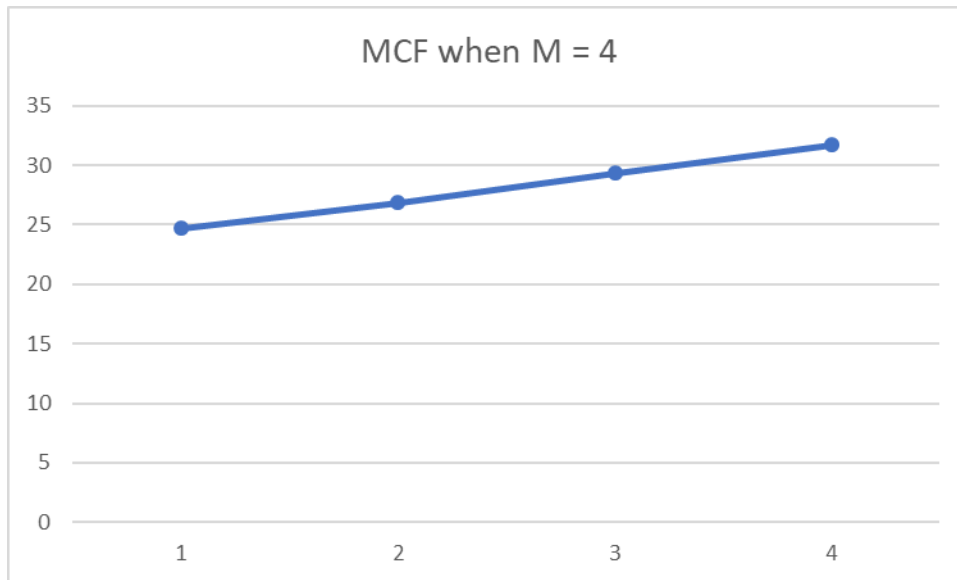
```
~/Computer Architecture/Branch
Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 4 1 gobmk_trace.txt
GPB: 4 RB: 1 Miss Ratio: 0.77285

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 4 2 gobmk_trace.txt
GPB: 4 RB: 2 Miss Ratio: 0.87035

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 4 3 gobmk_trace.txt
GPB: 4 RB: 3 Miss Ratio: 0.8640500000000001

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 4 4 gobmk_trace.txt
GPB: 4 RB: 4 Miss Ratio: 0.81575

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ |
```



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Part B:

MCF:

```
~/Computer Architecture/Branch
Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 4 4 mcf_trace.txt
GPB: 4 RB: 4 Miss Ratio: 31.717499999999998

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 5 4 mcf_trace.txt
GPB: 5 RB: 4 Miss Ratio: 26.558

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 6 4 mcf_trace.txt
GPB: 6 RB: 4 Miss Ratio: 19.8122

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 7 4 mcf_trace.txt
GPB: 7 RB: 4 Miss Ratio: 12.3959

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ |
```

GOBMK:

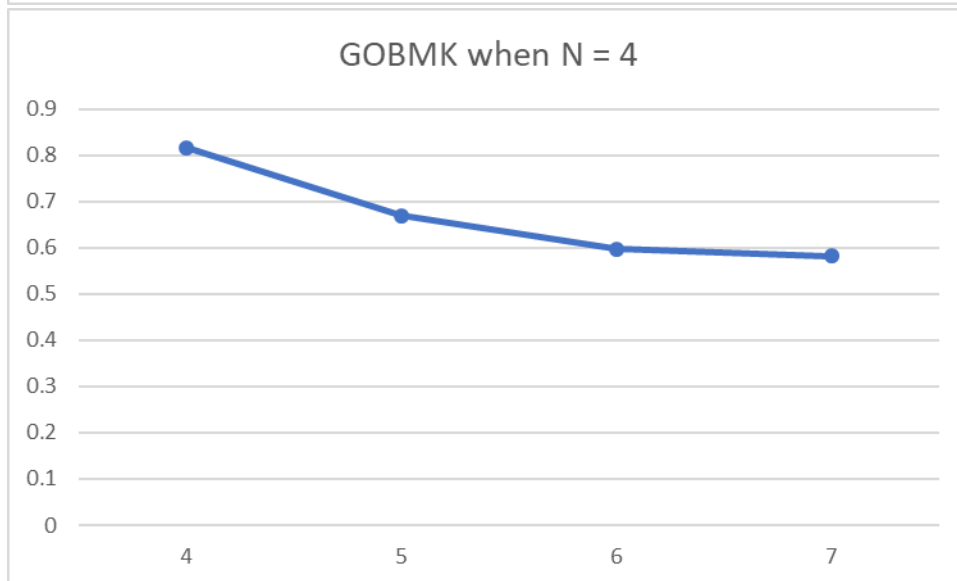
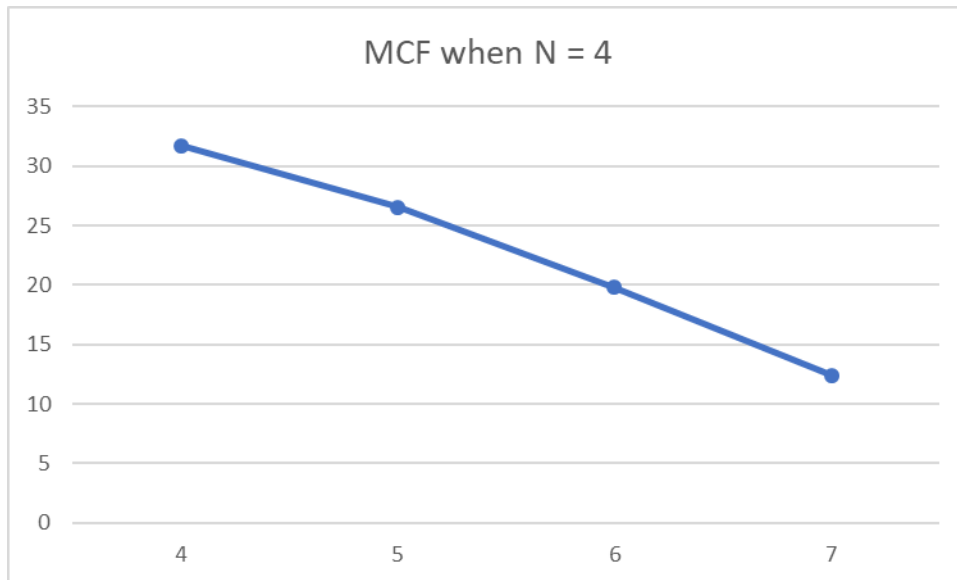
```
~/Computer Architecture/Branch
Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 4 4 gobmk_trace.txt
GPB: 4 RB: 4 Miss Ratio: 0.81575

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 5 4 gobmk_trace.txt
GPB: 5 RB: 4 Miss Ratio: 0.6687000000000001

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 6 4 gobmk_trace.txt
GPB: 6 RB: 4 Miss Ratio: 0.5972500000000001

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 7 4 gobmk_trace.txt
GPB: 7 RB: 4 Miss Ratio: 0.58195

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ |
```



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Part C:

MCF:

```
~/Computer Architecture/Branch
Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 4 0 mcf_trace.txt
GPB: 4 RB: 0 Miss Ratio: 23.755200000000002

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 5 0 mcf_trace.txt
GPB: 5 RB: 0 Miss Ratio: 20.8311

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 6 0 mcf_trace.txt
GPB: 6 RB: 0 Miss Ratio: 15.069550000000001

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 7 0 mcf_trace.txt
GPB: 7 RB: 0 Miss Ratio: 10.63125

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ |
```

GOBMK:

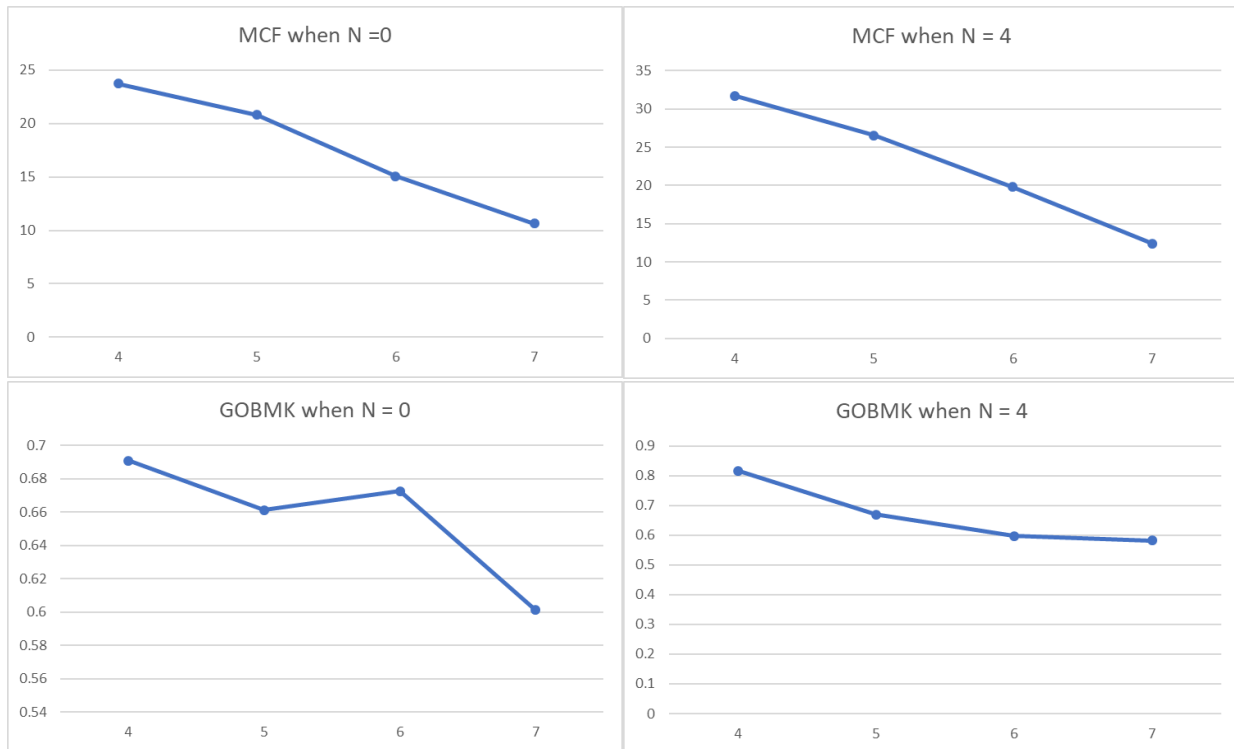
```
~/Computer Architecture/Branch
Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 4 0 gobmk_trace.txt
GPB: 4 RB: 0 Miss Ratio: 0.69085

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 5 0 gobmk_trace.txt
GPB: 5 RB: 0 Miss Ratio: 0.6611

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 6 0 gobmk_trace.txt
GPB: 6 RB: 0 Miss Ratio: 0.6726

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ java SIM 7 0 gobmk_trace.txt
GPB: 7 RB: 0 Miss Ratio: 0.6013499999999999

Donkey Phong@DESKTOP-A0M39PE ~/Computer Architecture/Branch
$ |
```



Comparing the two trends, there is a lower miss prediction ratio when N is 0 then when N is 4. In the MCF tracefile the miss prediction ratio is constantly going down as M increases. In the GOBMK tracefile the miss prediction ratio goes up a bit from 5 to 6 when N = 0 but then goes down from 6 to 7. When N = 4 for GOBMK the miss prediction ratio seems to be going down as M is increasing.