**PART 1. Bimodal Predictor**

A)

I was able to accurately match the output of diff file.

B)

A close up of text on a white background

Description automatically generated

A close up of text on a white background

Description automatically generated

A screenshot of a cell phone

Description automatically generated

c)

The bimodal will works best for jpeg trace. It gives higher misprediction for lower values of m and this misprediction decreases as value of m increases. We see that the graph shows a constant decrease in the slope which becomes constant as the number of iterations for the predictor increases.

d) The ideal value of m should be some either 11 or 12 as that is the point where we get the best balance between cost and performance use:

12 for gcc

11 for jpeg

12 for perl

**PART 2. GShare Predictor**

1. Able to run this both on remote and local
2. For gcc\_trace.txt

A close up of text on a white background

Description automatically generatedA close up of text on a white background

Description automatically generatedA close up of text on a white background

Description automatically generatedA picture containing text

Description automatically generatedA picture containing text

Description automatically generatedA screenshot of a social media post

Description automatically generated

For jpeg\_trace.txt

A close up of text on a white background

Description automatically generatedA close up of text on a white background

Description automatically generatedA screenshot of a cell phone

Description automatically generatedA close up of a device

Description automatically generatedA screenshot of a cell phone

Description automatically generated

Perl\_trace.txt

A picture containing text

Description automatically generatedA picture containing text, map

Description automatically generatedA picture containing text

Description automatically generatedA picture containing text

Description automatically generatedA screenshot of a cell phone

Description automatically generated

c) We observe that the number of mispredictions decreases the with increase in the value of n . On the other side if we increase m we observe that the value of misprediction decreases. Futhermore, it is observed that on increasing the value beyond a point the number of mispredictions increase We also observe that the fall is the highest in case of gcc\_trace and jpeg\_trace as compared to perl\_trace.

D)

gcc m=12

N=4

Jpeg m=12  
N=8

Perl m=12

n=10

This can be observed using the data observed during the experiments.

**Part 3: Hybrid Predictor**

A)

B)4 best gshare predictors are m=12,11,10,9

2 best gshare predictors are n= 8,10