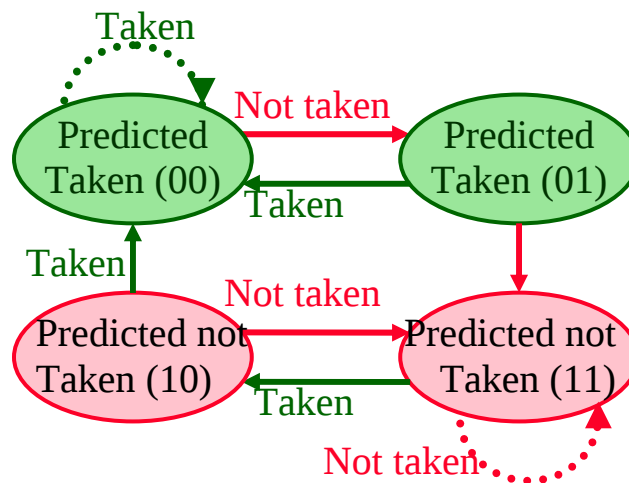


You are to continue working on your program to simulate a branch target buffer (BTB). The figure below shows the basic structure of the BTB; this buffer was presented in class. The BTB is used for dynamic branch prediction which is described in the textbook (pages 421-423).

Current PC	Predicted PC	Prediction	Busy
:	:	:	:

Below are some of the **minimum** requirements for your BTB:

- BTB size: 1K entries (1024 entries)
- Input file: text file with addresses in hexadecimal (0,1,2,3,4,5,6,7,8,9,a,b,c,d,e,f)
- Choose four benchmark program traces to observe the performance of your BTB Traces are at the following URL: <http://www.eecs.wsu.edu/~jdelgado/traces/>
- Implement the 2-bit branch predictor given below.



- Output: number of right and wrong predictions (misprediction) and hit rate.

$$\text{Misprediction} = \frac{\text{wrong_prediction}}{\text{correct_prediction} + \text{wrong_prediction}}$$

$$\text{Hit_rate} = \frac{\text{Branches_found}}{\text{Branches_found} + \text{Branches_not_found}}$$

Please include the following items in your report:

1. Introduction

Brief description of the problem (i.e. Branch instructions and their impact on performance).

2. Parameters that are set and observed

- Benchmarks
- Hit rate
- Prediction accuracy

3. Result of the simulations

Please use graphs and tables (don't include just data)

4. Discussion of results

Please describe in detail your findings (use a quantitative approach to discuss the impact of your findings)
-impact on CPI ?

5. References/bibliography

Find some good references at: <http://ieeexplore.ieee.org>

400190
400194
400198
40019c
4001a0
4001a4
4001a8
4001ac
4001b0
4001b4
4001b8
4001bc
4001c0
4001c4
4202b0
4202b4
4202b8
4202bc
4202c0
4202c4
4202c8
4202cc
4202d0
4202d4
4202d8
4202dc
42ac30
42ac34
42ac38
42ac3c
42ac40
42ac44
42ac48
42ac5c
42ac60
42ac64
42ac68
42ac6c
42ac70
42ac74
42ac78
42ac7c
42ac80
42ac84
42ac88
42ac8c
42ac90
42ac94
42ac98
42ac9c
42aca0
42aca4

Current PC	Predicted PC	Prediction	Busy
4001c4	4202b0	Taken (00)	Y
4202dc	42ac30	Taken (00)	Y
:	:	:	:

