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NPTEL

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Courses » Computer Organization and Architecture

Announcements **Course** Forum Progress Mentor

Unit 8 - Week 7

Course outline

How to access the portal

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

● Lecture 21 - Control Hazard, Branch Prediction

● Lecture 22 - Process Management

● Lecture 23 - Branch prediction

● Lecture 24 - Global Branch Prediction

○ Quiz : Assignment Week 7

● Lab Exercise 4

○ Feedback for week 7

○ Week 7 Solutions

Week 8

Week 9

Week 10

Assignment Week 7

Assignment Week 7

1) A conditional jump is recognized at the fetch stage using

1 point

- Branch Target Buffer
- Special Processing unit

- Software Prediction
- Operating System

Accepted Answers:
Branch Target Buffer

2) When should the Branch Target Buffer be flushed?

1 point

- Never
- When there is a function call
- When there is a process switch
- All of the above

Accepted Answers:
When there is a process switch

3) You cannot maintain a very large Content Addressable Memory because of

1 point

- Low efficiency
- Large cost for the CAM chip
- low memory access speed
- Area and Power

Accepted Answers:
Area and Power

4) A Trap is generated by the

1 point

- the running process
- an external process

Week 11

Week 12

- Operating System
- Compiler

Accepted Answers:*the running process*

5) A printf or malloc takes the process to what state?

1 point

- Running
- Ready
- Suspended
- Terminated

Accepted Answers:*Suspended*

6) The characteristic of a static predictor is that

1 point

- The prediction is always taken
- The prediction is always not taken
- The prediction is always constant
- The prediction changes with each mis-prediction

Accepted Answers:*The prediction is always constant*

7) for(i=0;i<100;i++)

1 point

{

Code;

}

The best static predictor for the above code will predict

- Always taken
- Always not taken
- No prediction
- None of the above

Accepted Answers:*Always not taken*

8) When does a dynamic 1-bit predictor change its prediction?

1 point

- With every misprediction
- With two mispredictions
- When there is a page fault
- Never

Accepted Answers:*With every misprediction*

9) A tournament predictor works by

1 point

- Choosing a random predictor
- changing the prediction for every mis-prediction
- choosing a predictor for every mis-prediction

- choosing a best predictor based on the previous predictions

Accepted Answers:

choosing a best predictor based on the previous predictions

10) There is no need to use a k-bit predictor, $k > 2$ because

1 point

- k is inversely proportional to efficiency
- Efficiency of k-bit predictors, $k > 2$ is worse than 2-bit predictor
- Efficiency of k-bit predictors, $k > 2$ is unpredictable
- A 2-bit predictor is as good as any k-bit predictor

Accepted Answers:

A 2-bit predictor is as good as any k-bit predictor

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