

## Homework Assignment 4 Worksheet

CIS501 Fall 2005

Name: \_\_\_\_\_

### Predictor #1

branch PC	prediction	actual direction	correct?	predictor entry
initial state:				N
0x08		N		
0x0C		T		
0x08		N		
0x0C		T		
0x08		T		
0x0C		N		
0x08		N		
0x0C		T		
0x08		N		
0x0C		T		

Prediction accuracy: \_\_\_\_\_ %

### Predictor #2

branch PC	predictor index	prediction	actual direction	correct?	one-bit predictor entry	
					index=0	index=1
initial state:					N	N
0x08			N			
0x0C			T			
0x08			N			
0x0C			T			
0x08			T			
0x0C			N			
0x08			N			
0x0C			T			
0x08			N			
0x0C			T			

Prediction accuracy: \_\_\_\_\_ %

**Predictor #3**

branch PC	predictor index	prediction	actual direction	correct?	two-bit predictor entry	
					index=0	index=1
initial state:					n	n
0x08			N			
0x0C			T			
0x08			N			
0x0C			T			
0x08			T			
0x0C			N			
0x08			N			
0x0C			T			
0x08			N			
0x0C			T			

Prediction accuracy: \_\_\_\_\_ %

**Predictor #4**

branch PC	predictor index	prediction	actual direction	correct?	global history = N		global history = T		global history
					index=0	index=1	index=0	index=1	
initial state:					n	n	n	n	N
0x08			N						
0x0C			T						
0x08			N						
0x0C			T						
0x08			T						
0x0C			N						
0x08			N						
0x0C			T						
0x08			N						
0x0C			T						

Prediction accuracy: \_\_\_\_\_ %

**Unrolling Factor of 1 (no unrolling)**

instruction	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

Cycles per instruction: \_\_\_\_\_

Cycles per character: \_\_\_\_\_

**Unrolling Factor of 2**

instruction	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

Cycles per instruction: \_\_\_\_\_

Cycles per character: \_\_\_\_\_

