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CSE 140 HW 4 - 2

2-

I1	IF ID EXEC NEW WB	CD42 C344 US C66 C718 C910 C11 C12 C13 C14 C15 C16 C17 C18
I2	IF ID EXEC NEW WB	
I3	IF IF ID EXEC NEW WB	
I4	IF IF ID EXEC NEW WB	
I5	-	
I6	-	
I7	-	
I8	-	
I9	IF ID EXEC NEW WB	
I10	IF ID EXEC NEW WB	
I11	IF ID EXEC NEW WB	
I12	IF ID EXEC NEW WB	
I13	IF ID EXEC NEW WB	

3- Consider a branch instruction that has following outcomes:

T, NT, T, NT, T, T, T, T, T, NT, T, NT, T

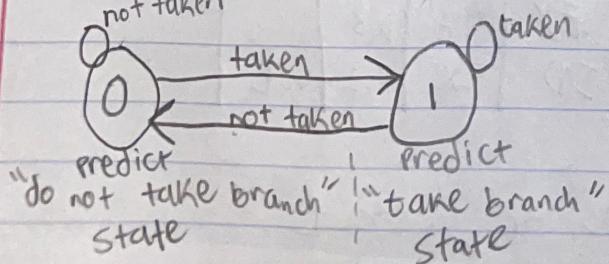
a: What is the misprediction rate of always-taken and always-not-taken predictors for this sequence of branch outcomes?

NT, T, NT, T, NT, NT, NT, NT, NT, T, NT, T, NT

of sequences = 14

$$7/14 = 0.5$$

b: What is the misprediction rate of one-bit branch predictors for this sequence of branch outcomes? This initial predictor state is 0



$$9/14 = 0.64 \text{ on the rate}$$

for misprediction