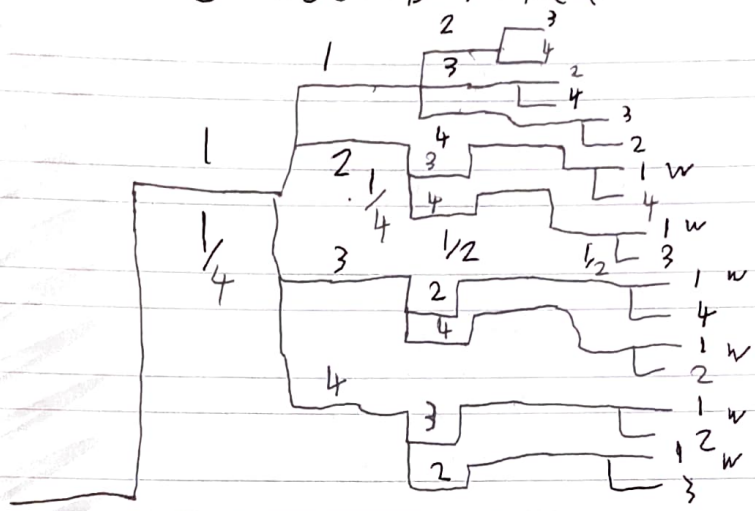
Subject: Recitation 17

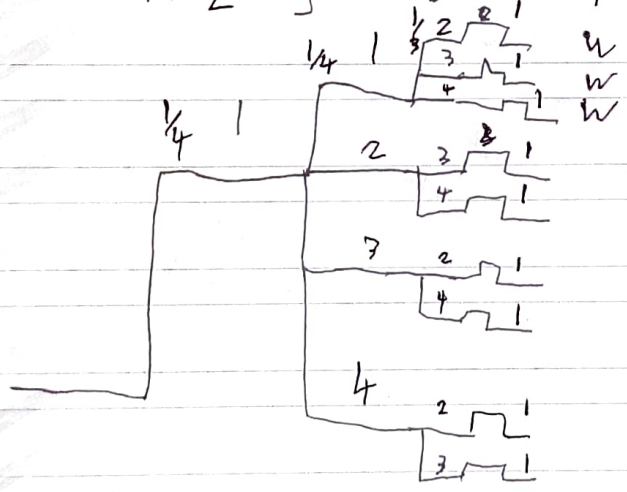
Year: Month: Date:

1 The Four-Door Deal



Prize Init Rev Switch
pick pick

$$Pr[W] = 4 \times (\tfrac{1}{4} \times \tfrac{1}{4} \times \tfrac{1}{2} \times \tfrac{1}{2}) = \tfrac{12}{32} = \tfrac{3}{8}$$



$$4 \times (3 \times (\tfrac{1}{4} \times \tfrac{1}{4} \times \tfrac{1}{3})) = \tfrac{1}{4} = Pr[W]$$

Prize Init Rev Stay
pick pick

Subject:

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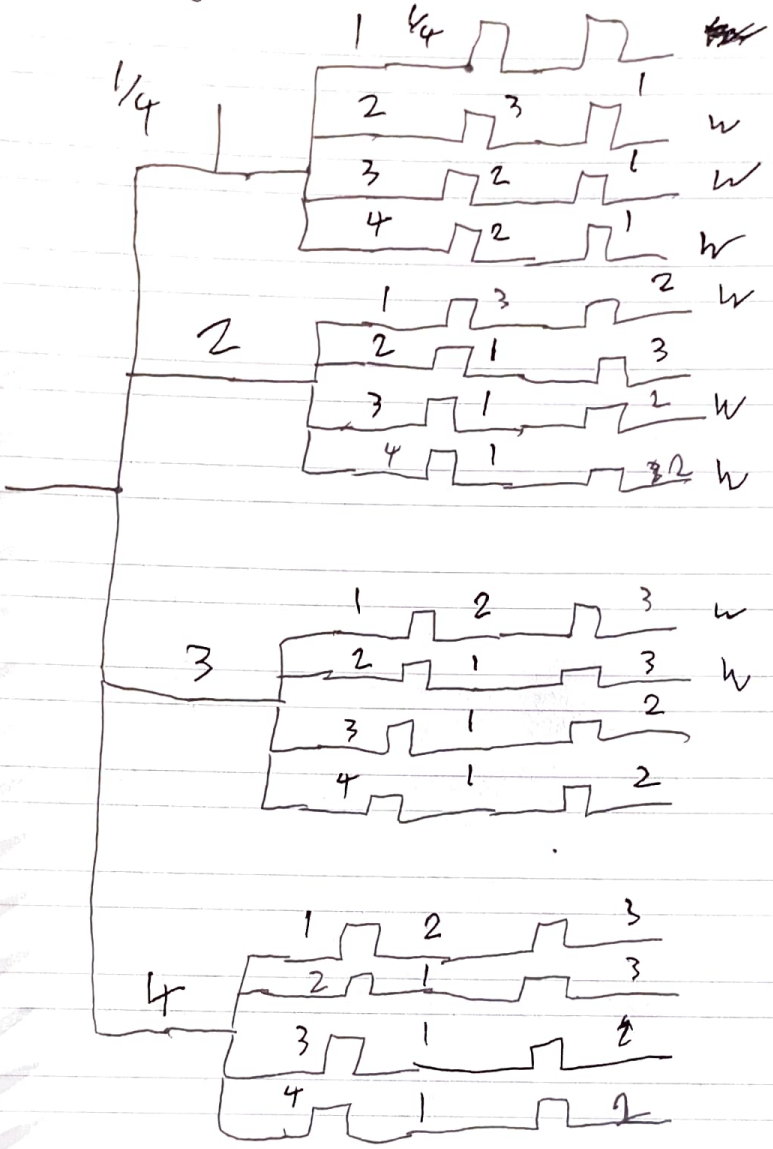
2 Earliest Door 2 3



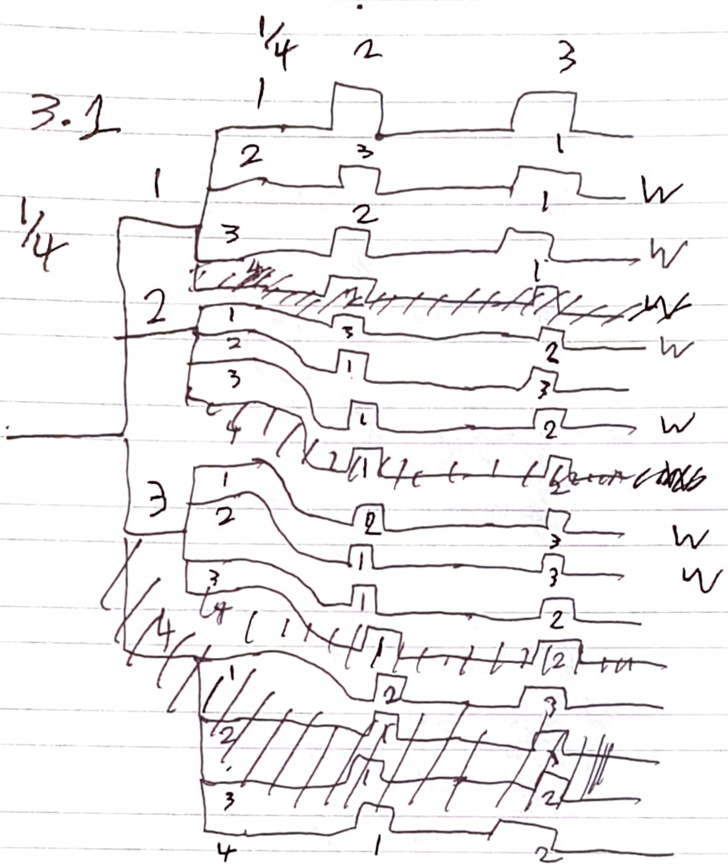
$8 \times \frac{1}{16} = \frac{1}{2}$

Prize Pick Rev Pick

Init Early

3 The 3 doors version revisited

3.1



Prize	Pick ~~2~~	Rev	Pick
	Init	~~Easy~~ Smar	Switch

~~$8 \times \frac{1}{16} = \frac{1}{2}$~~

$$Pr[W] = 6 \times \frac{1}{3} \times \frac{1}{3} = \frac{6}{9}$$

Subject:

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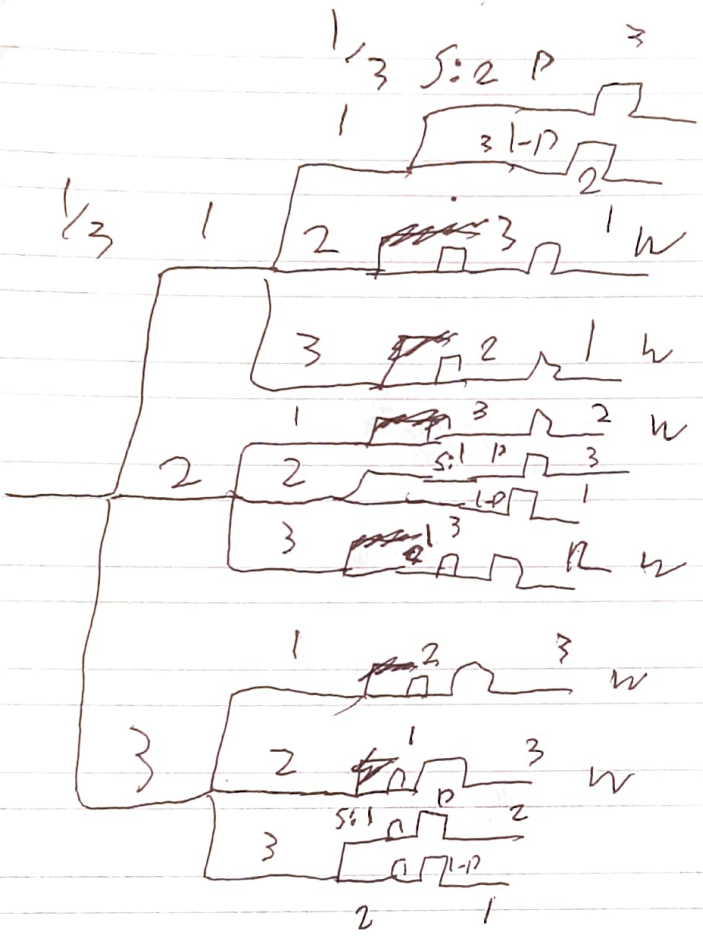
3.2



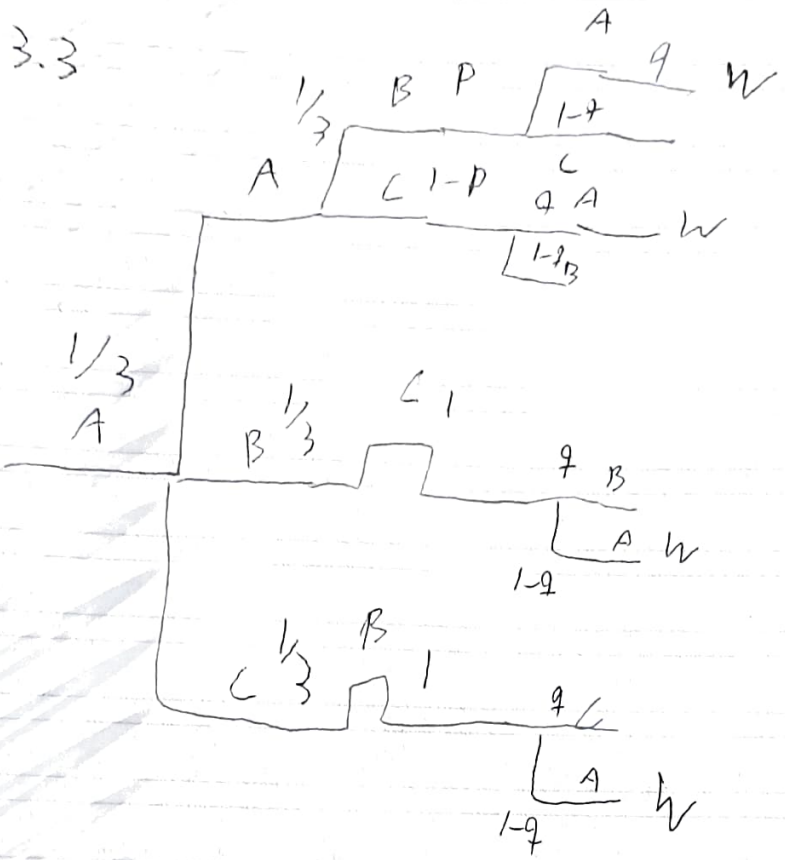
Prize Init Rev Switch

Pick Pick

$$6 \times \frac{1}{9} = \frac{6}{9}$$

Recitation 17 (Cntd..)

3.3



$$qP + q(1-P) + 1-q + 1-q = 2-q$$

$$\rightarrow \frac{2-q}{q} \rightarrow q=0 \rightarrow \text{Best}$$