

Assignment 4

COMP 2230

Due: March 6, 2026 by 11:59 p.m.

Upload your Word, PDF, or LaTeX file(s) to Brightspace

Exercises from the Textbook (90 points):

Section 9.1: 10, 19

Section 9.2: 17, 28

Section 9.3: 2, 24, 34

Section 9.4: 11, 28

Section 9.5: 10, 16

Section 9.6: 13, 18

Section 9.7: 27

Section 9.8: 15, 21

Section 9.9: 24, 32

Additional Exercises (10 points):

1. Consider the Monty Hall Problem defined in Example 9.1.3 of the textbook. What if there were four doors instead of three? Again, the prize is only behind one of the four doors. After the contestant's initial choice, Monty Hall opens two doors (instead of only one), showing no prize behind each. What would be the optimal strategy then? What is the probability that you would get the prize if you followed the optimal strategy? What if there were n doors but still only one prize. Then, Monty Hall opens $n - 2$ doors after the initial choice, again showing no prize behind them. Then, what is the optimal strategy and what is the probability of winning a prize with it?