

HW2 TJ Jiang

Problem 1

Chapter 4, Exercise 4 (p. 168).

a)

For the cases where $0.5 < X < 0.95$, the average will be 10%. Otherwise, we form an integral as such:

$$\int_0^{0.05} 100x + 5dx$$

Which equals 0.375, multiplied by 2 for two intervals: when $x < 0.05$ and when $x > 0.95$. Thus on average our prediction is $0.1 * 0.9 + 0.00375 * 2 = 9.75\%$

b)

$$0.975^2 = 95.06\%$$

Problem 2

Chapter 4, Exercise 6 (p. 170).

Problem 3

Chapter 4, Exercise 8 (p. 170).

Problem 4

Chapter 4, Exercise 10 (p. 171). In part (i), please be concise; only describe and provide the output of your best prediction.

Problem 5

Chapter 5, Exercise 5 (p. 198).

Problem 6

Chapter 5, Exercise 6 (p. 199)

Problem 7

Chapter 5, Exercise 8 (p. 200)

Problem 8

Chapter 5, Exercise 9 (p. 201)