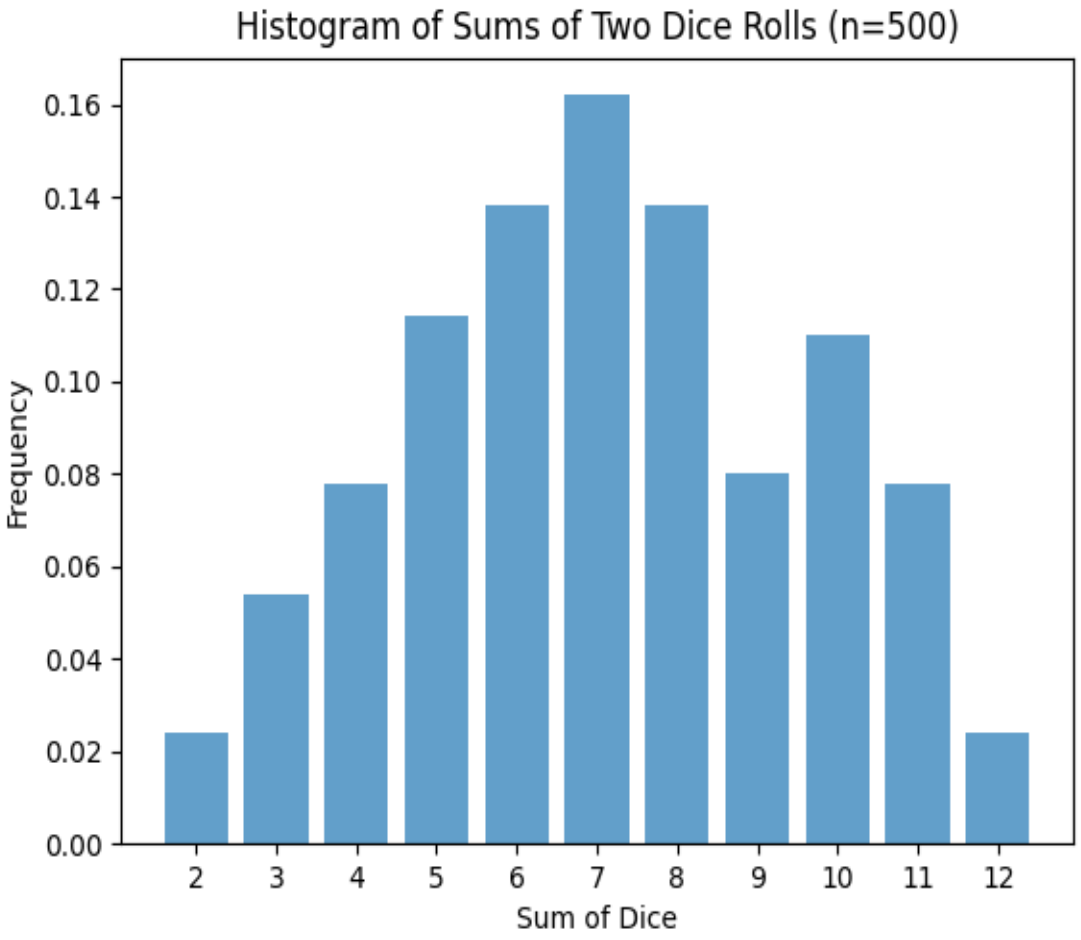
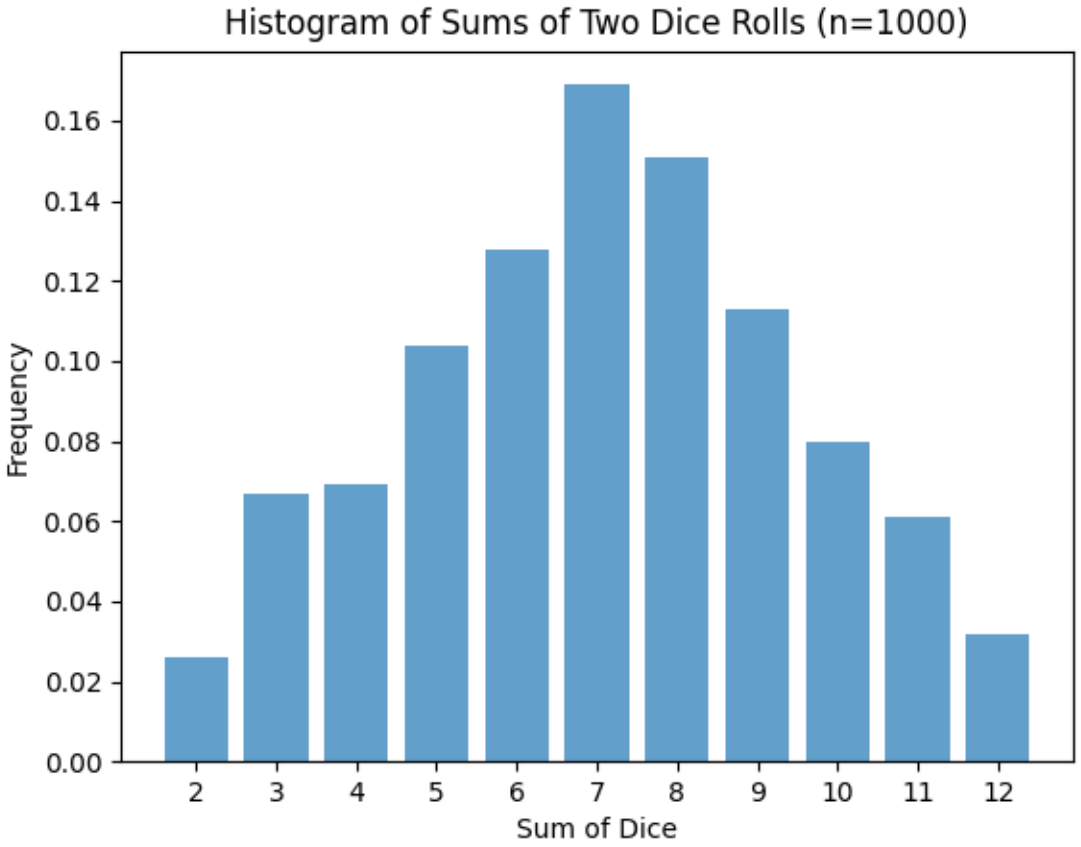
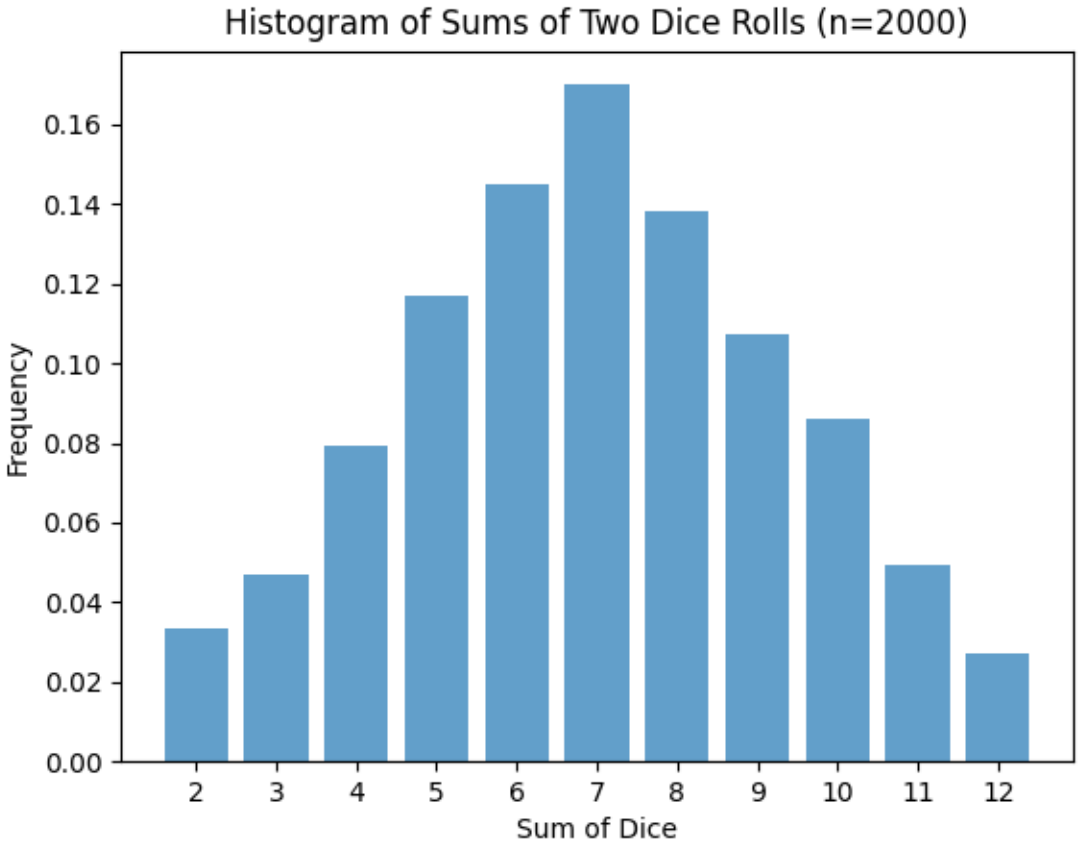
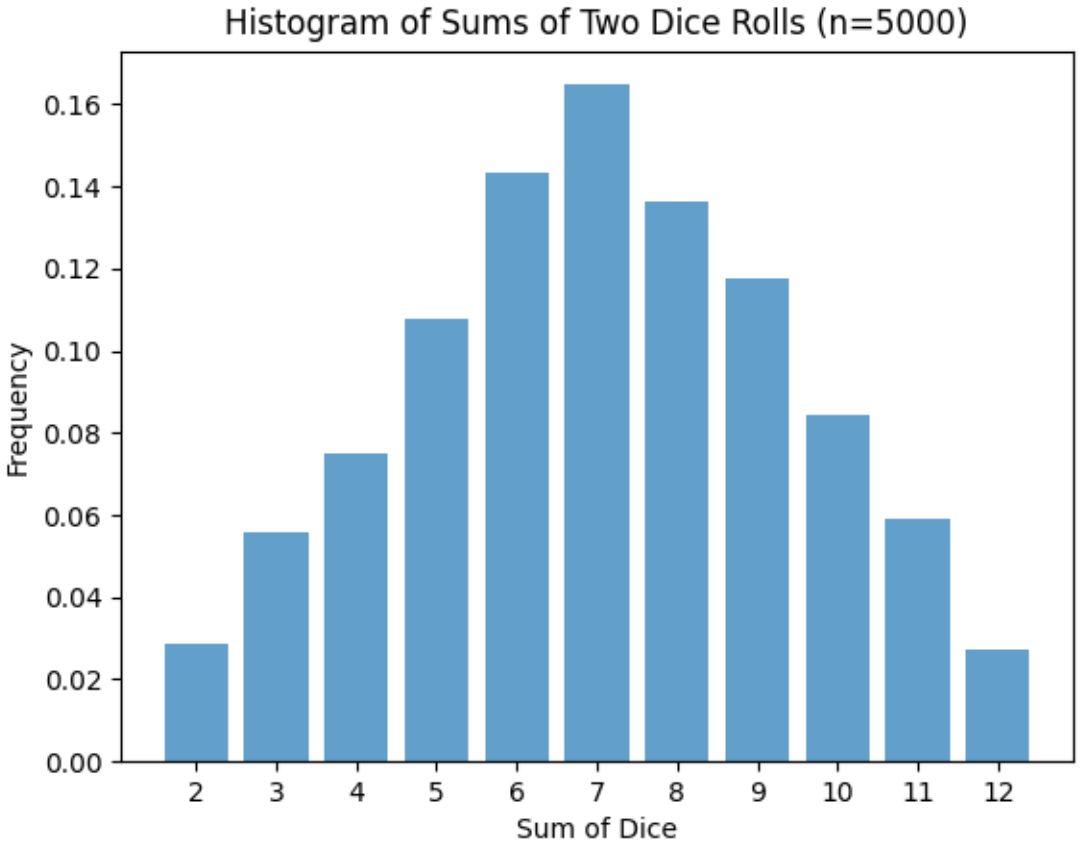
Explanation

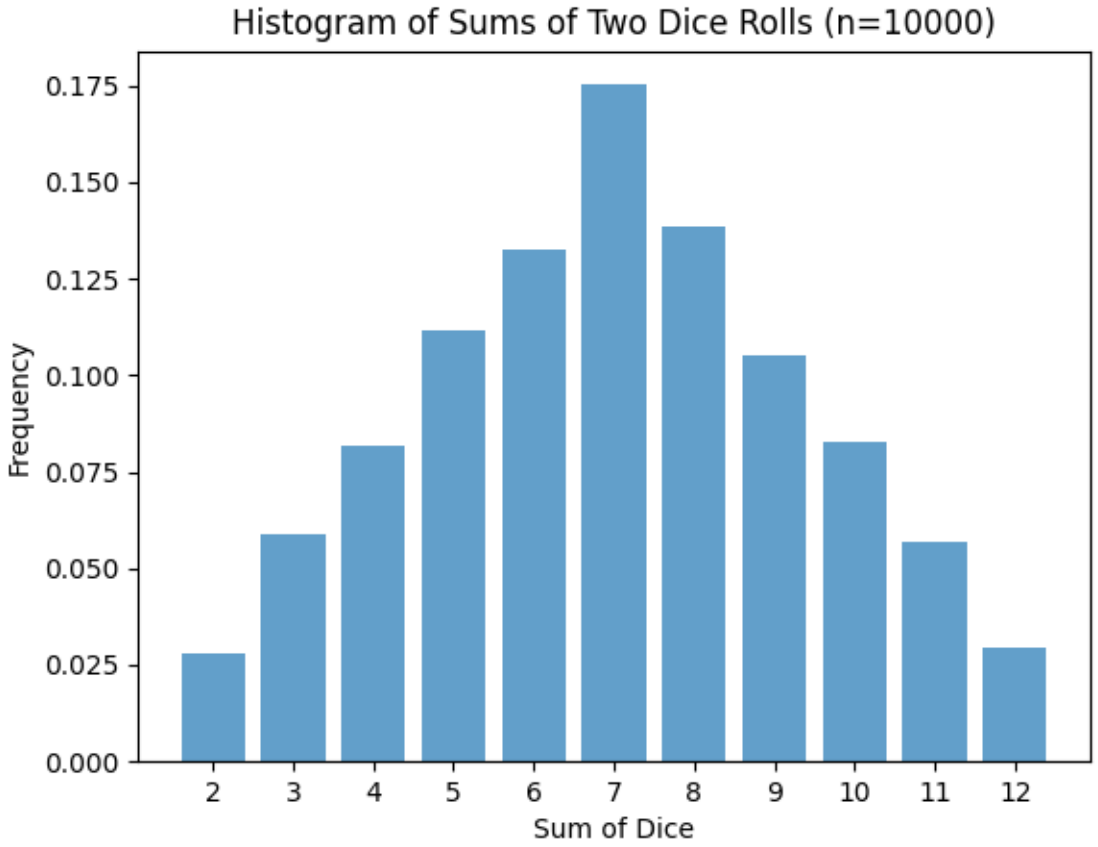
As the value of n increases, the histogram will show a distribution more closely similar to the expected probability distribution of the sums of two dice. This illustrates the concept of "regression to the mean," where larger sample sizes lead to outcomes that average out to the expected values.

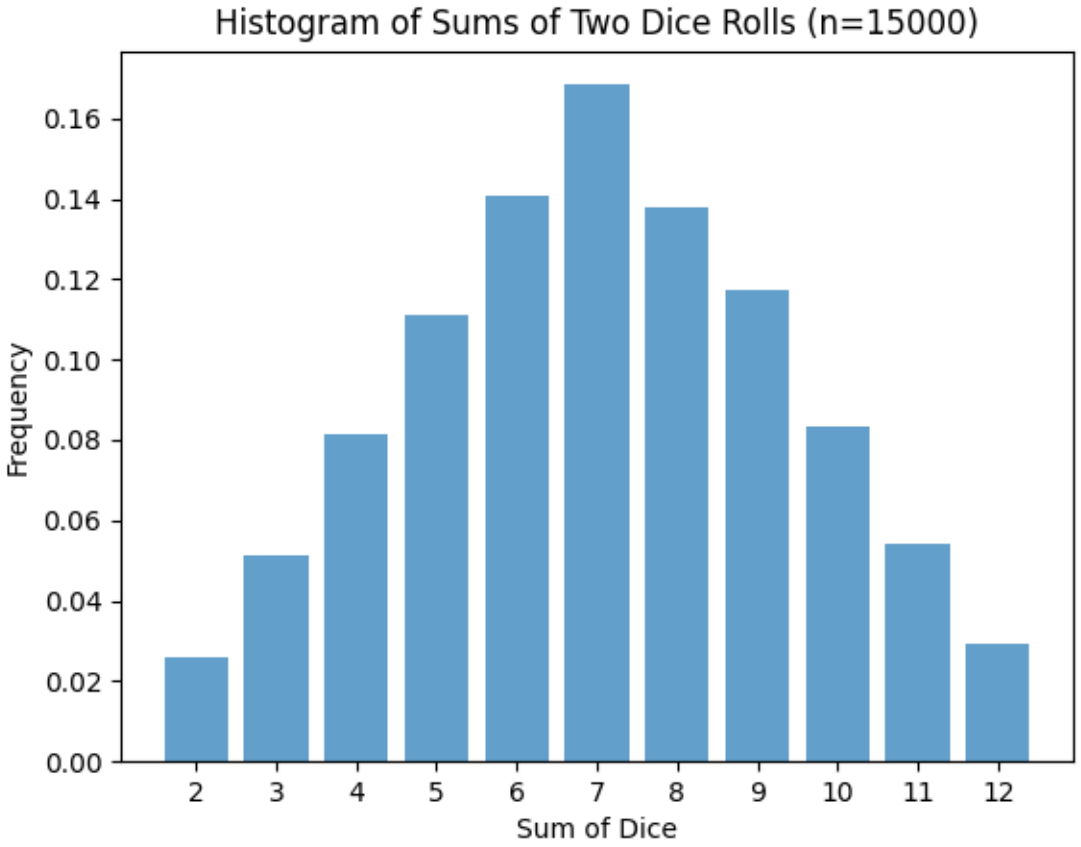


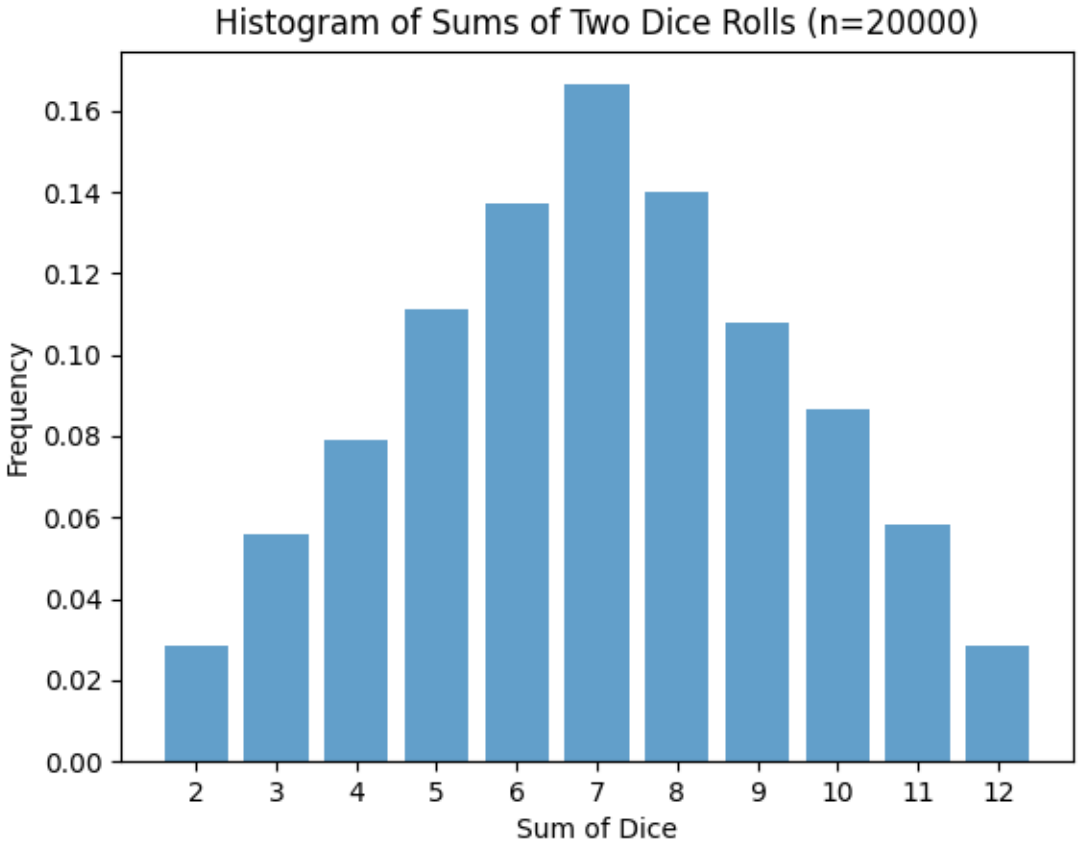

Histogram of Sums of Two Dice Rolls (n=1000)
Frequency
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
2
3
4
5
6
7
8
9
10
11
12
Sum of Dice

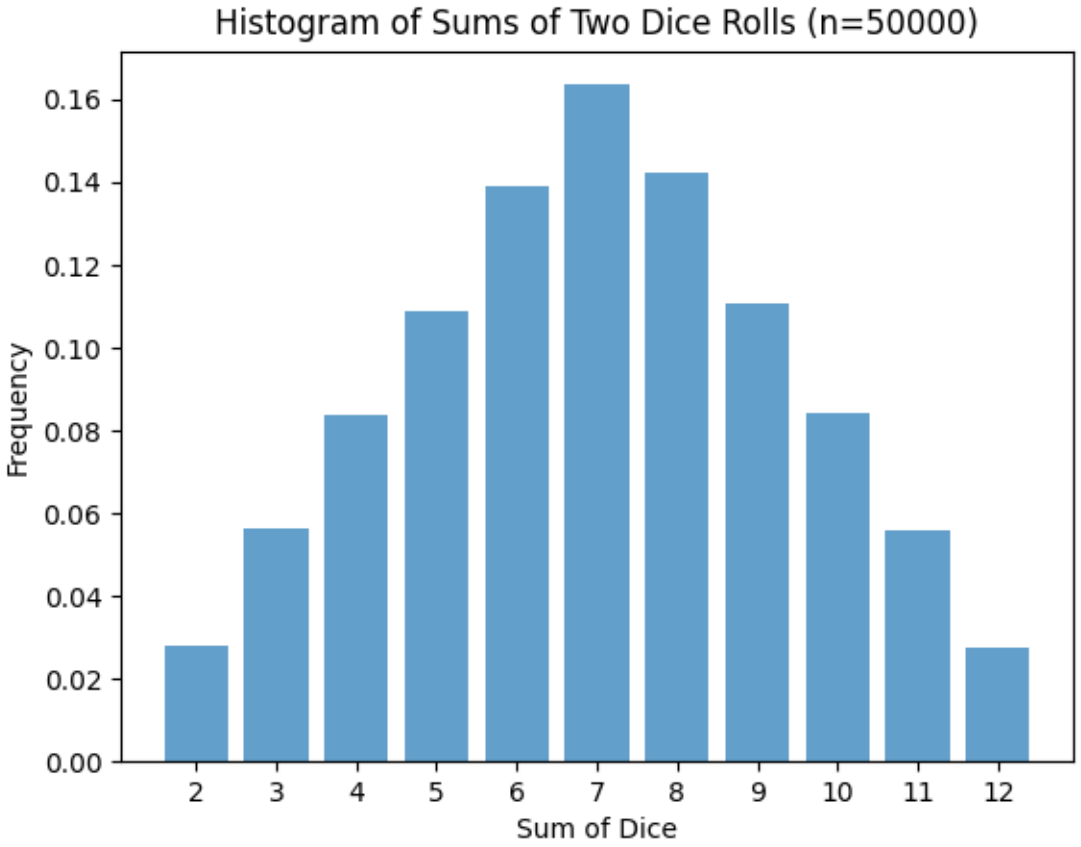

Histogram of Sums of Two Dice Rolls (n=2000)
Frequency
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
2
3
4
5
6
7
8
9
10
11
12
Sum of Dice

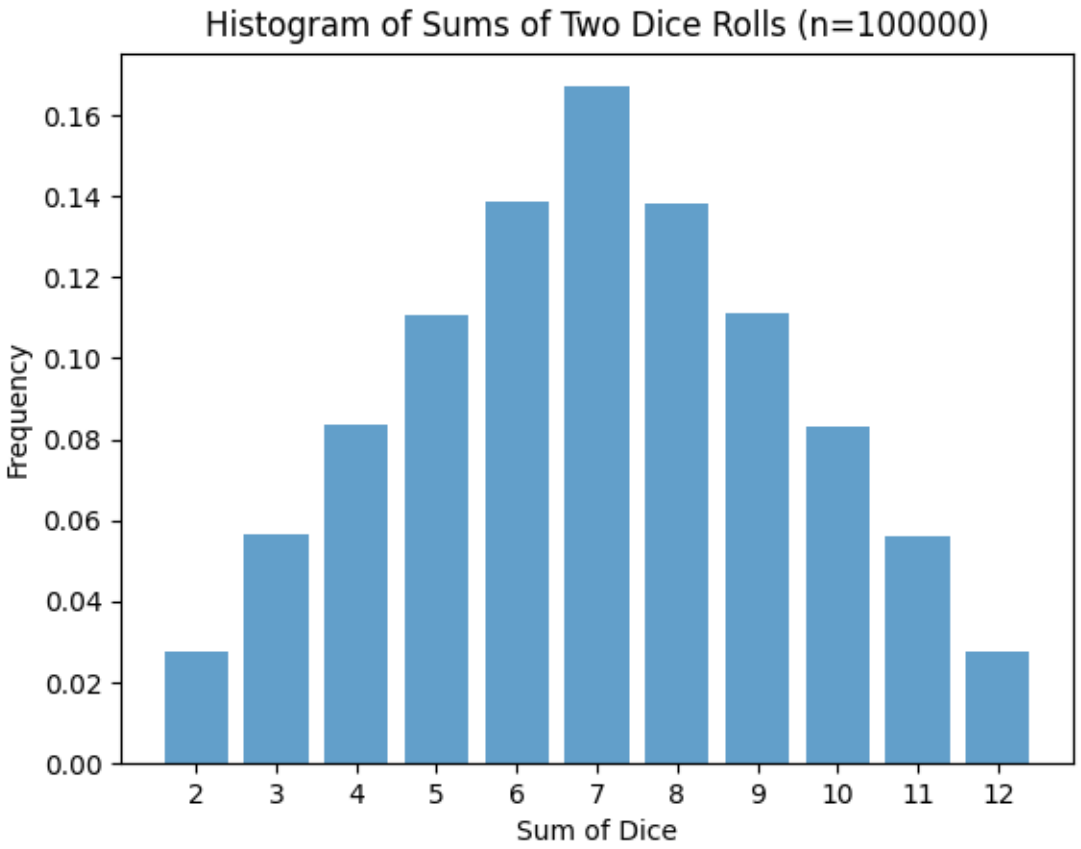

Histogram of Sums of Two Dice Rolls (n=5000)
Frequency
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
2
3
4
5
6
7
8
9
10
11
12
Sum of Dice


Histogram of Sums of Two Dice Rolls (n=10000)
Frequency
0.175
0.150
0.125
0.100
0.075
0.050
0.025
0.000
2
3
4
5
6
7
8
9
10
11
12
Sum of Dice

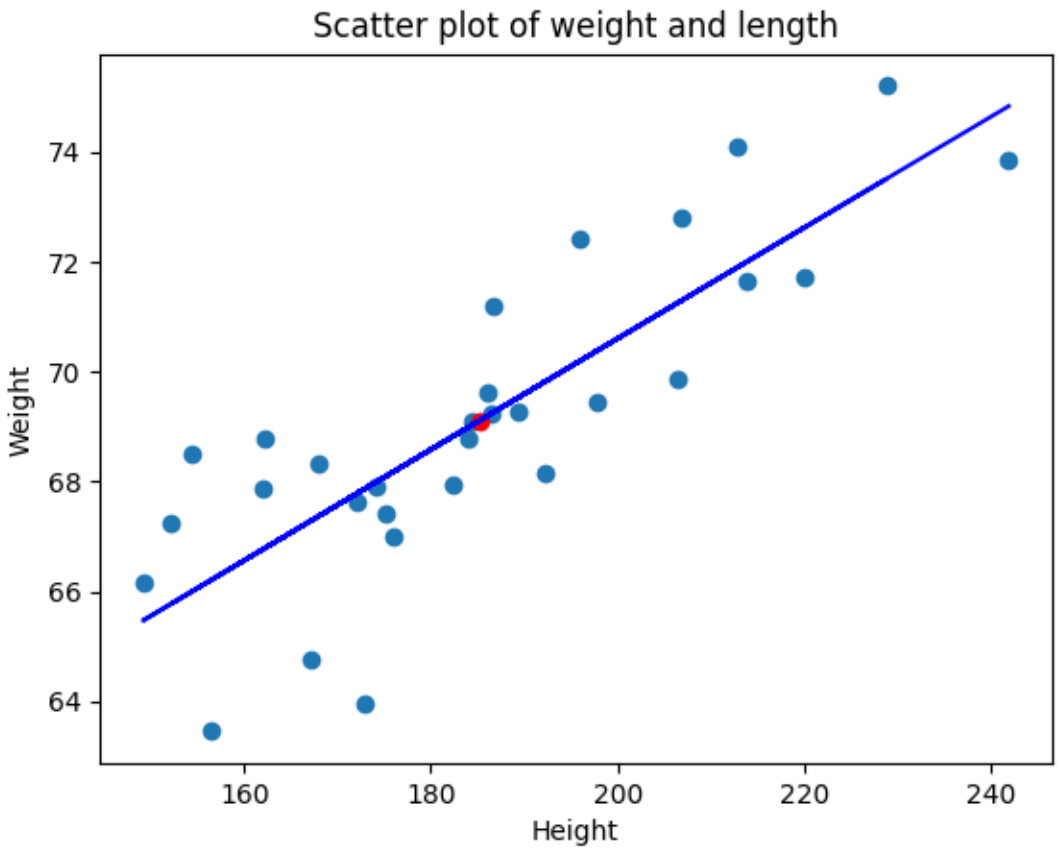

Histogram of Sums of Two Dice Rolls (n=15000)
Frequency
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
2
3
4
5
6
7
8
9
10
11
12
Sum of Dice


Histogram of Sums of Two Dice Rolls (n=20000)
Frequency
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
2
3
4
5
6
7
8
9
10
11
12
Sum of Dice


Histogram of Sums of Two Dice Rolls (n=50000)
Frequency
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
2
3
4
5
6
7
8
9
10
11
12
Sum of Dice


Histogram of Sums of Two Dice Rolls (n=100000)
Frequency
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
2
3
4
5
6
7
8
9
10
11
12
Sum of Dice

Exercise-2:


Scatter plot of weight and length
Weight
Height
74
72
70
68
66
64
160
180
200
220
240