CODES

PART-A

1A) faces\_on\_die = 6

total\_combinations = faces\_on\_die \* faces\_on\_die

print("Total combinations:", total\_combinations)

2A) faces\_on\_die = 6

sum\_matrix = [[0] \* faces\_on\_die for \_ in range(faces\_on\_die)]

for die\_a in range(1, faces\_on\_die + 1):

for die\_b in range(1, faces\_on\_die + 1):

sum\_val = die\_a + die\_b

sum\_matrix[die\_a - 1][die\_b - 1] = sum\_val

for row in sum\_matrix:

print(" ".join(map(str, row)))

3A) faces\_on\_die = 6

total\_combinations = faces\_on\_die \* faces\_on\_die

sum\_distribution = [0] \* 11

for die\_a in range(1, faces\_on\_die + 1):

for die\_b in range(1, faces\_on\_die + 1):

sum\_val = die\_a + die\_b

sum\_distribution[sum\_val - 2] += 1

for i in range(11):

probability = sum\_distribution[i] / total\_combinations

print(f"Sum of {i + 2}: {sum\_distribution[i]} ways, probability: {probability:.4f}")

PART-B

1) def undoom\_dice(Die\_A, Die\_B):

New\_Die\_A = [min(4, spots) for spots in Die\_A]

New\_Die\_B = Die\_B

return New\_Die\_A, New\_Die\_B

Die\_A = [1, 2, 3, 4, 5, 6]

Die\_B = [1, 2, 3, 4, 5, 6]

New\_Die\_A, New\_Die\_B = undoom\_dice(Die\_A, Die\_B)

print("Transformed Dice:")

print("New\_Die\_A:", New\_Die\_A)

print("New\_Die\_B:", New\_Die\_B)