**CSE220 Lab Quiz03 Solution**

**Set A**

**Python**

def decodeMessage(message):

size = len(message)

pin = np.zeros(size, dtype=int)

for i in range(size):

diagonal = message[i][ i]

counter\_diagonal = message[i][size - 1 - i]

difference = diagonal - counter\_diagonal

if (difference < 0) :

difference = -difference

pin[i] = difference

return pin

**Java**

public class DecodeMessage {

public static int[] decodeMessage(int[][] message) {

int size = message.length;

int[] pin = new int[size];

for (int i = 0; i < size; i++) {

int diagonal = message[i][i];

int counterDiagonal = message[i][size - 1 - i];

int difference = diagonal - counterDiagonal;

if (difference < 0) {

difference = -difference;

}

pin[i] = difference;

}

return pin;

}

}

**Set B**

**Python**

def decodeMessage(message):

size = len(message)

pin = np.zeros(size, dtype=float)

for i in range(size):

diagonal = message[i][ i]

counter\_diagonal = message[i][size - 1 - i]

average = (diagonal + counter\_diagonal)/2

if (average < 0) :

average = -average

pin[i] = average

return pin

**Java**

public class DecodeMessage {

public static float[] decodeMessage(int[][] message) {

int size = message.length;

float[] pin = new float[size];

for (int i = 0; i < size; i++) {

int diagonal = message[i][i];

int counterDiagonal = message[i][size - 1 - i];

float average = (diagonal + counterDiagonal)/2.0f;

if (average < 0) {

average = -average;

}

pin[i] = average;

}

return pin;

}

}

**Rubric**

| **Category** | **Marks** |
| --- | --- |
| Proper method/function definition with proper parameters | 2 |
| Initiating proper resultant array | 2 |
| Properly running the loop | 4 |
| Properly calculating diagonal and counter-diagonal positions | 4 |
| Properly calculate the relevant data | 2 |
| Returning the resultant array | 1 |