In [1]:
```
#Matrix Addition: Create a Matrix class that supports addition of two matrices u
#the __add__ method. Ensure that matrices can only be added if they have the sam
#dimensions.

class Matrix:
    def __init__(self, data):
        self.data = data
        self.rows = len(data)
        self.cols = len(data[0]) if self.rows > 0 else 0

    def __add__(self, other):
        if not isinstance(other, Matrix):
            raise TypeError("Only Matrix instances can be added.")

        if self.rows != other.rows or self.cols != other.cols:
            raise ValueError("Matrices must have the same dimensions to be added

        result = []
        for i in range(self.rows):
            row = []
            for j in range(self.cols):
                row.append(self.data[i][j] + other.data[i][j])
            result.append(row)

        return Matrix(result)

    def __str__(self):
        return '\n'.join(str(row) for row in self.data)

m1 = Matrix([[1, 2, 3], [4, 5, 6]])
m2 = Matrix([[7, 8, 9], [10, 11, 12]])

try:
    m3 = m1 + m2
    print("Matrix Addition Result:")
    print(m3)
except Exception as e:
    print("Error:", e)

m4 = Matrix([[1, 2], [3, 4], [5, 6]])  # 3x2

try:
    m5 = m1 + m4
except Exception as e:
    print("Error:", e)
```

```
Matrix Addition Result:
[8, 10, 12]
[14, 16, 18]
Error: Matrices must have the same dimensions to be added.
```

In [ ]: