Problem 1:

Write a function called **check_numbers** that takes a list of integers as input. The function should iterate through the list using a for loop and check if each number is greater than 10 and even. If a number meets both conditions, it should be added to a new list called **result**. Finally, the function should return the **result** list.

Problem 2:

You are given a **matrix** represented as a list of lists. Each inner list represents a row of the matrix. Write a function called **count_even_numbers** that takes the matrix as input and returns the count of even numbers in the matrix.

```
matrix = [[1, 2, 3],
          [4, 5, 6],
          [7, 8, 9]]
```

Problem 3:

You are given a square **matrix** represented as a list of lists, where each inner list represents a row of the matrix. Write a function called **get_diagonal_sum** that takes the matrix as input and returns the sum of the elements along the main diagonal (from the top-left to the bottom-right) of the matrix.

```
matrix = [[1, 2, 3],
          [4, 5, 6],
          [7, 8, 9]]
```

Problem 4:

You are given two square matrices represented as lists of lists, where each inner list represents a row of the **matrix**. Write a function called **replace_submatrix** that takes three parameters: **matrix, submatrix, and position**. The matrix parameter represents the main matrix, submatrix represents the matrix that will replace a part of the main matrix, and position represents the starting row and column indices where the submatrix will be placed.

The function should replace the part of the matrix specified by position with the submatrix. The dimensions of the submatrix are guaranteed to fit within the dimensions of the part of the matrix specified by position.

```
matrix = [[1, 2, 3,6],
          [4, 5, 6,11],
          [7, 8, 9,21],
          [4, 8, 11, 5]]

submatrix = [[10, 11],
             [12, 13]]

position = (1, 1)
```

[[10, 11],
[12, 13]]

[[1, 2, 3, 6, 7],
[4, 5, 6, 11, 12],
[7, 8, 9, 21, 22],
[4, 8, 11, 5, 13]]

[[10, 11, 3, 6, 7],
[12, 13, 6, 11, 12],
[7, 8, 9, 21, 22],
[4, 8, 11, 5, 13]]