1. Write a program that takes a number as input and prints its multiplication table upto 10.
   Test Data:
   Input a number: 8
   Expected Output :
   8 x 1 = 8
   8 x 2 = 16
   8 x 3 = 24
   ...
   8 x 10 = 80
   SOLUTION: https://github.com/MuhammadNaeemAkhtar/RUST/tree/master/multiplication-table

2. Write a program that takes three numbers as input to calculate and print the average of the numbers.

```rust
use std::io;
fn main() {
    // Write a program that takes three numbers as input to calculate and print the average of the numbers
    let number1: u8 = user_input().trim().parse().expect("error");
    let number2: u8 = user_input().trim().parse().expect("error");
    let number3: u8 = user_input().trim().parse().expect("error");

    println!("Average: {}", ( number1 as f32 + number2 as f32 + number3 as f32 )/3.0);
}

fn user_input() -> String {
    let mut input = String::new();
    io::stdin().read_line(&mut input).expect("error");
    input
}
```

3. Write a program to print the area and perimeter of a rectangle.

```rust
use std::io;
fn main() {
    // Write a program to print the area and perimeter of a rectangle.
    let length: u8 = user_input().trim().parse().expect("error");
    let width: u8 = user_input().trim().parse().expect("error");

    //area // perimeter
    println!("Area: {}\nPerimeter: {}", length*width, 2*(length+width));
}

fn user_input() -> String {
    let mut input = String::new();
    io::stdin().read_line(&mut input).expect("error");
```

4. Write a program to swap two variables.
   Solution: https://github.com/MuhammadNaeemAkhtar/RUST/tree/master/swap-numbers

5. Write a program and compute the sum of the digits of an integer.
   Input Data:
   Input an integer: 25
   Expected Output

   ```
   The sum of the digits is: 7
   ```
   Solution: https://github.com/MuhammadNaeemAkhtar/RUST/tree/master/integer-digits-sum

6. Write a program to print the prime numbers from 1 to 99. Prints one number per line.
   Sample Output:

```
1
3
5
7
9
11
....
```

Solution: https://github.com/MuhammadNaeemAkhtar/RUST/tree/master/prime-numbers

7. Write a program to accept a number and check the number is even or not. Prints 1 if the number is even or 0 if the number is odd.
   Sample Output:

```
Input a number: 20
1
```

Solution: https://github.com/MuhammadNaeemAkhtar/RUST/tree/master/check-even-odd

8. Write a program to print numbers between 1 to 100 which are divisible by 3, 5 and by both.
   Sample Output:

```
Divided by 3:
3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48,
51, 54, 57
, 60, 63, 66, 69, 72, 75, 78, 81, 84, 87, 90, 93, 96, 99,

Divided by 5:
5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80,
85, 90,
95,

Divided by 3 & 5:
15, 30, 45, 60, 75, 90,
```

Solution: https://github.com/MuhammadNaeemAkhtar/RUST/tree/master/numbers-divisible-by-3-5

9. Write a program to calculate the sum of two integers and return true if the sum is equal to a third integer.
   Sample Output:

```
Input the first number : 5
Input the second number: 10
Input the third number : 15
The result is: true
```

Solution:
https://github.com/MuhammadNaeemAkhtar/RUST/tree/master/integer-sum-equals-integer

10. Write a program that accepts three integers from the user and return true if two or more of them (integers) have the same rightmost digit. The integers are non-negative.

Sample Output:

```
Input the first number : 5
Input the second number: 10
Input the third number : 15
The result is: true
```

Solution: https://github.com/MuhammadNaeemAkhtar/RUST/tree/master/right-most-digit-check

11. Write a function called city_country() that takes in the name of a city and its country. The function should return a string formatted like this: "Santiago, Chile" Call your function with at least three city-country pairs, and print the values that are returned.

Sample Output:

```
Fasialabad, Pakistan
Turin, Italy
Recife, Brazil
```

12. Write a function called make_shirt() that accepts a size and the text of a message that should be printed on the shirt. The function should print a sentence summarizing the size of the shirt and the message printed on it. Call the function to make two T-shirts.

Sample Output:

```
Printed "I love Pakistan" on shirt of size 27
Printed "I love Pakistan" on shirt of size 27
```

13. Make a function to find factorials of given number

Sample Output:

```
Enter number:5
Factorial of 5 is: 120
```

14. function to find Faboocii series till given Number

Sample Output:

```
Enter Number: 10
0 1 1 2 3 5 8 13 21 34
```

15. Make a function, that takes a vector as parameter, return a vector of square of each elements in the vector and finally prints both vectors.

```
Vector 1: [2, 3, 4, 5, 6]
Vector square: [4, 9, 16, 25, 36]
```

16. Write a program to get the larger value between first and last element of an array of integers.

```
Original Array: [20, 30, 40]
Larger value between first and last element: 40
```

17. Write a program to swap the first and last elements of a vector.

```
Original Vector: [20, 30, 40]
New Vector after swaping the first and last elements: [40,
30, 20]
```

18. Write a program to find the largest element between first, last, and middle values from an array of integers.(Odd Length)

```
Original Array: [20, 30, 40, 50, 67]
Largest element between first, last, and middle values: 67
```

19. Write a program to multiply corresponding elements of two arrays of integers.

```
Array1: [1, 3, -5, 4]

Array2: [1, 4, -5, -2]

Result: 1 12 25 -8
```

20. Write a program to check whether an given integer is a power of 4 or not.
    Given num = 64, return true.
    Given num = 6, return false.