Assignment-2

Note:

If you don't have a laptop then just write your solutions/programs on paper(after solving it on computer). In this case we will check that paper.

In Part 2 of assignment If you are new to Computer Science then correctness of your program isn't necessary.

Don't upload it anywhere, it will be checked offline in class.

Part-1

Q-1

```
fn main() {
   let x = 3;
   match x {
      3 => println!("ndbf {}",x);
   }
}
```

Q-2

```
fn main(){    //Generate  counting till 100. Hint you can break loop

let x = 0;
    loop{
        println!(“Hello {}”, x);
        x+=1;
        If x == 10{
        }
    }
}
```

Q-3

```
fn main() {
   let x = 3;
   loop {
       println!("I love Stranger things");
       if (x=3){
           println!("I don’t love it anymore!")
       }
   }
}
```

Q-4

```
// Check if two numbers are equal
fn main()
{
    let number1:i32 = 12;
    let number2:i32 = 12;

    if number1 != number1 {
        println!("Number1 and Number2 are equal\n");
    }else{
        println!("Number1 and Number2 are not equal\n");}
}
```

Q-5

```
let mut x = 5;

loop {
    x += x -- 3;
    println!("{}", x);

    if x % 5 = 0 { break; }
}
```

Q-6

```
use std::io;
fn main() {
     let mut sum=0;
     for i in 0..10 {
     let mut data = String::new();
     println!("Enter integer {}",i+1);
     io::stdin().read_line(data);
     let mut data = data.trim().parse().unwrap();
     sum = sum + data;
   }
   println!("The sum is: {}",sum);
   println!("The average is: {}",sum/10);
}
```

Q-7

```
// display the cube of the number upto a given integer.

let x = 3;

for i in 0..x{
   println!("Number is :{} and cube is :{}",i,(i as i32).pow(3) );  //pow is method for
power
//   (num as datatype).pow(power)
}
```

Q-8

```
fn main() {
    let names = ["Ali", "Zain" "Naufil"]

    for name in names.iter() {
        match nam {
            &"Ali" => println!("There is a rockstar among us!"),
            _ => println!("Hello {}", name),
    }
}
```

Q-9

```
fn main()
{
    let array: [i32; 5] = [8, 9, 3, 4, 5];
    let sum = 0;

    println!("Find sum of all elements of array:");
    println!("--------------------------------");

    for n in range 1..5 {
        sum += array[n];
    }

    println!("Sum of all elements stored in the array is : {}", sum);
}
```

Q-10

```
fn main(){
    let numbers = [20, 30, 25, 35, 16, 60, 100];
       //calculate sum of all array elements
    sumi:32 = 0;

       for a in 0..numbers.len() {
        sum = sum + numbers[i];
        }

         //calculate average value
        let average = sum / numbers.len();
        println!("Average value of the array elements is : {" , average);

    }
```

Q-11

```
//This program will calculate profit and loss on a transaction.

fn main()
{
    let cost_price = 12;
    let sale_price = 13,
    mut profit_lost = 0;


    if sale_price>cost_price //calculate profit
    {
        profit_lost = sale_price-cost_price;
        println!("You can booked your profit amount : {}", profit_lost);
    }
    else if (cost_price>sale_price) //calculate loss
    {
        profit_lost = cost_price-sale_price;
        println!("You got a loss of amount : {}", profit_lost);
    }
    else //No Profit No Loss
    {
        println!("You are running in no profit no loss condition.");
    }
}
```

Part-2

Q-1

Write a program using to check whether the number is prime or not
(hint: declare variable and iterate that from 1 to that number .Take reminder at every iteration if 2 times it gives true then number is prime)

Q-2

Write a program using loop, for loop and while loop, which iterates four times and first three times it prints “I love my mother” and in the 4th iteration, it should print “I love my father”

Q-3

Write a program using match control flow to check the number . if number is equal to 10 print “decade”
if it is equal to 100 print “century”
if it is equal to 1000 print “millennium” other wise print “ please enter 10,100 or 100”

Q-4

Write a program to find the sum of first 10 natural numbers.

Expected Output :
The first 10 natural number is :
1 2 3 4 5 6 7 8 9 10
The Sum is : 55

Q-5

Write a program to find the eligibility of admission for a professional course based on the following criteria:
Marks in Maths >=65
Marks in Phy >=55
Marks in Chem>=50
Total in all three subject >=180
or
Total in Math and Subjects >=140
Test Data :
Input the marks obtained in Physics :65
Input the marks obtained in Chemistry :51
Input the marks obtained in Mathematics :72
Expected Output :
The candidate is eligible for admission.