Lab Assignment - 4

1. Write a program to input a list of integers and print whether each number is even or odd.

```
[24] lst = []
     n = int(input("Enter the limit: "))
     for i in range(n):
       a = int(input('Enter the values to the list: '))
       lst.append(a)

     for num in lst:
       if num%2==0:
         print(f"{num} is an even Number")
       else:
         print(f"{num} is an odd Number")
```

```
Enter the limit: 4
Enter the values to the list: 24
Enter the values to the list: 251
Enter the values to the list: 5235
Enter the values to the list: 2422
24 is an even Number
251 is an odd Number
5235 is an odd Number
2422 is an even Number
```

2. Write a program to input n numbers from the user and determine the smallest number among them.

```
lst = []
n = int(input("Enter the limit: "))
for i in range(n):
  a = int(input('Enter the values to the list: '))
  lst.append(a)

small = lst[0]
for num in lst:
  if num < small:
    small = num

print(f"The Samllest number is {small}")
```

```
Enter the limit: 6
Enter the values to the list: 2
Enter the values to the list: -66
Enter the values to the list: 4
Enter the values to the list: 0
Enter the values to the list: 21
Enter the values to the list: 256
The Samllest number is -66
```

3. Write a program to input a string and count the total number of alphabetic characters, digits, and special characters.

```
username = input("Enter the username:")
c = 0
a = 0
d = 0
for i in username:
  if i.isdigit():
    d = d+1
  elif i.isalpha():
    a = a+1
  else:
    c = c+1
print(d)
print(c)
print(a)
```

```
Enter the username:nanducs.24
2
1
7
```

4. Write a program that prints all odd numbers from 1 to 50.

```
[34] for i in range(0,50):
       if i%2 !=0:
         print(i, end=" ")

1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49
```

5. Write a program to input a positive integer and print its digits in reverse order.

```
[35] n = int(input("Enter the number: "))
     rev = 0
     while n>0 :
         d = n % 10
         rev = rev * 10  + d
         n = n//10

     print(rev)

Enter the number: 4556
6554
```

6. Input the marks of a student and print the corresponding grade based on the following criteria:

   A: 90-100

   B: 80-89

   C: 70-79

   D: 60-69

   F: < 60

```
marks = int(input("Enter the student's marks: "))

if marks >= 90 and marks <= 100:
    print("Grade: A")
elif marks >= 80 and marks <= 89:
    print("Grade: B")
elif marks >= 70 and marks <= 79:
    print("Grade: C")
elif marks >= 60 and marks <= 69:
    print("Grade: D")
else:
    print("Grade: F")

Enter the student's marks: 90
Grade: A
```

7. Write a program to input a number and print all multiples of that number between 1 and 100.

```
[5] number = int(input("Enter a number: "))

    for i in range(1, 101):
        if i % number == 0:
            print(i, end = " ")

Enter a number: 20
20 40 60 80 100
```

8. Write a program to input a string and print the frequency of each character (case insensitive).

```
string = input("Enter a string: ").lower()
frequency = {}

for char in string:
    if char in frequency:
        frequency[char] += 1
    else:
        frequency[char] = 1

for char, count in frequency.items():
    print(f"{char}: {count}")
```

```
Enter a string: nanda krishnan varrier
n: 4
a: 4
d: 1
 : 2
k: 1
r: 4
i: 2
s: 1
h: 1
v: 1
e: 1
```

9. Write a program to create a shopping cart as a list of prices. Calculate and print the total price, applying a 10% discount if the total exceeds 500.

```
cart = []
total = 0

price = input("Enter the price of the item / select buy to order:  ")

if price == 'buy':
  print("Proceed to the payment gateway")
else:
  total += float(price)

if total > 500:
    total = total * 0.9

print("Total price:", total)
```

```
Enter the price of the item / select buy to order:  890
Total price: 801.0
```

10.Write a program to input a list of integers and print the unique elements from the list.

```
[23] numbers = input("Enter a list of integers: ").split()

     unique_numbers = []

     for num in numbers:
         if numbers.count(num) == 1:
             unique_numbers.append(num)

     print("Unique elements:", unique_numbers)
```

```
Enter a list of integers: 124 141 1432 1432 124 42
Unique elements: ['141', '42']
```

11.Write a program to input a list of numbers and print a new list containing the squares of all the numbers.

```
[35] number =[]
     limit = int(input("Enter the limit: "))

     for i in range(limit):
       numbers = int(input())
       number.append(numbers)

     square =[]
     for i in number:
       square.append(i*i)

     print(square)
```

```
Enter the limit: 2
2
4
[4, 16]
```

12.Write a program to input a positive integer and print a countdown from that number to 1.

```
[37] n = int(input("Enter the number: "))
     for i in range(n,0,-1):
       print(i, end=" ")
```

```
Enter the number: 10
10 9 8 7 6 5 4 3 2 1
```

13.Write a program to input two lists and print the elements that are present in both lists in sequential order.

```
[58] number1 = input("Enter the first list of elements separated by spaces: ").split()
     number2 = input("Enter the second list of elements separated by spaces: ").split()
     intersection = []

     # print(number1)
     # print(number2)

     for i in number1:
       if i in number2:
         intersection.append(i)

     for i in intersection:
       print(i, end=" ")
```

```
Enter the first list of elements separated by spaces: 2 5 62 151
Enter the second list of elements separated by spaces: 5 25 62 26
5 62
```

14.Write a program to generate the first 10 numbers in the Fibonacci sequence and print them.

```
[59] n = int(input("Enter the maximum number for the Fibonacci series: "))
     a = 0
     b = 1

     print("Fibonacci series up to", n, "is:")
     while a <= n:
         print(a, end=' ')
         next_number = a + b
         a = b
         b = next_number
```

```
Enter the maximum number for the Fibonacci series: 5
Fibonacci series up to 5 is:
0 1 1 2 3 5
```