Practice Exercises on Python Basics

1. Write a Python program which accepts the radius of a circle from the user and compute the area.
   Sample input: Radius=3
   Sample output: Area of Circle with radius, 3 = 28.27

2. Write a Python Program to accept the details of a student like name, roll number and mark and display it.
   Sample input: Enter the name: Anisha
   Enter the roll number: 21
   Enter the mark: 78

   Sample output: Name: Anisha
   Roll No: 21
   Mark: 78

3. Write a Python program to get the largest number from a list.
   Sample input: 12, 3, 47, 10
   Sample output: 47 is the largest number.

4. Write a Python program to accept a string value from the user and display the count of each character in that string.
   Sample input: Enter a string value: assembly
   Sample output: a=1, s=2, e=1,m=1,b=1,l=1,y=1

5. Write a Python program to copy element 44 and 55 from the following tuple into a new tuple.
   tuple1 = (11, 22, 33, 44, 55, 66)
   Sample output: copied_tuple = (11, 22, 33, 44, 55, 66)

6. Given a range of first 10 numbers, write a Python program to iterate from start number to the end number and print the sum of the current number and previous number.

Sample input: 1….10
Sample output:
Current Number 1 Previous Number 0 Sum: 1
Current Number 2 Previous Number 1 Sum: 3
Current Number 3 Previous Number 2 Sum: 5
……..
Current Number 10 Previous Number 9 Sum: 19

7. Write a Python program to print only those numbers which are divisible of 5.
   Sample input: 10, 20,33,46,55
   Sample output: 10, 20, 55

8. Write a Python program to check whether a number is prime or not.
   Sample input: Enter the number: 3
   Sample output: 3 is a prime number.

9. Write a Python program to reverse a list using for loop.

   Sample input: 10,40,30,70
   Sample output: 70,30,40,10

10. Write a Python program to print the following pattern.
    *
    **
    ***
    ****

11. Write a Python function to find the maximum of three numbers
    Sample input: 34,12,7
    Sample output: 34

12. Write a Python function called exponent(base,exp) that returns an integer value of base raises to the power of exp.

    Sample input: Enter the base: 2

Enter the exponent: 3

Sample output: 8

13. Write a Python function that takes a positive integer and returns the sum of the cube of all the positive integers smaller than the specified number.
    Sample input: 4
    Sample output: 36

14. Write a Python program to construct the following pattern, using a nested for loop.

```
*
**
***
****
*****
****
***
**
*
```


15. Write a Python program which iterates from 1 to 10. For multiples of 2, print "Fizz" instead of the number and for the multiples of 5, print "Buzz". For numbers which are multiples of both 2 and 5, print "FizzBuzz".
    Sample input: numbers from 1 to 10
    Sample output: 1 Fizz 3 Fizz Buzz Fizz 7 Fizz 9 FizzBuzz

16. Write a Python program to find the most frequent item in a list of numbers.
    Sample input: 2, 3, 4, 2, 5, 2
    Sample output: 2

17. Write a Python program to find the sum of squares of the numbers in a list.

Sample input: 2,1,3,1
Sample output: 15

18. Write a Python program using for loop that will iterate from 1 to 15. For each iteration, check if the current number is odd or even, and display the message to the screen as odd or even.
    Sample input: 1….15
    Sample output: 1-odd
    2-even
    ….
    15-odd

19. Write a Python program to convert temperatures to and from Celsius Fahrenheit. [Formula: c/5=f-32/9 where c=temperature in Celsius and f= temperature in Fahrenheit.]
    Sample input: Temperature in Fahrenheit =41
    Sample output: Temperature in Celsius =5

20. Write a Python function to calculate the factorial of a number (a non-negative integer).The function accepts the number as an argument.
    Sample input: 3
    Sample output: 6