Assignment - 20 More on functions

1. Write a python program to create a function that takes a list and returns a new list with the original list's unique elements.

```
def get_unique_list(list):
    unique_list=[]
    for item in list:
        if item not in unique_list:
            unique_list.append(item)
    return unique_list
my_list=[1,2,3,2,4,1,5,4]
unique_list=get_unique_list(my_list)
print(unique_list)
```

Output:-

```
[1, 2, 3, 4, 5]
```

2. Write a python program to create a function that takes a number as a parameter and checks if the number is prime or not.

```
def check_prime(n):
    for i in range(2,n):
        if n%i==0:
            return False
    return True
number=int(input("Enter a number:"))
if check_prime(number):
    print("Number is prime.")
else:
    print("Number is not prime.")
```

Output:-

Enter a number:6

Number is not prime.

3. Write a python program to create a function that prints the even numbers from a given list. Sample List : [1, 2, 3, 4, 5, 6, 7, 8, 9]

```
def check_even(list):
    for e in list:
        if e%2==0:
            print("Element:",e)
check_even([1, 2, 3, 4, 5, 6, 7, 8, 9])
```

Output:-

Element: 2

Element: 4

Element: 6

Element: 8

4. Write a python program to create a function that checks whether a passed string is palindrome or not.

```
def check_palindrome(input_string):
    processed_string=input_string.replace(" ","").lower()
    reversed_string=processed_string[::-1]
    if processed_string==reversed_string:
        return True
    else:
        return False
string=input("Enter a string:")
if check_palindrome(string):
    print("String is palindrome.")
```

```
else:
   print("String is not palindrome.")
```

Output:-

```
Enter a string:level
String is palindrome.
```

5. Write a python program to create a function to find the Min of three numbers.

```
def find_min(a,b,c):
   list=[a,b,c]
   return min(list)
x=find_min(10,20,30)
print("Minimum number is:",x)
```

Output:-

```
Minimum number is: 10
```

6. Write a python program to create a function and print a list where the values are square of numbers between 1 and 30.

```
def print_square(a,b):
   list=[]
   for e in range(a,b):
      list.append(e**2)
   return list
x=print_square(a=1,b=31)
print(x)
```

Output:-

```
[1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225, 256, 289, 324, 361, 400, 441, 484, 529, 576, 625, 676, 729, 784, 841, 900]
```

7. Write a python program to access a function inside a function.

```
def outer_function():
    print("This is an outer function!")
    def inner_function():
        print("This is an inner function!")
    return inner_function()
outer_function()
```

Output:-

This is an outer function!

This is an inner function!

8. Write a python program to create a function that accepts a string and calculate the number of upper case letters and lower case letters.

```
def f1(string):
    lower=0
    upper=0
    input_string=string.replace(" ","")
    for e in input_string:
        if e>='A' and e<='Z':
            upper+=1
        else:
            lower+=1
    return [upper,lower]
list=f1("Tarun Pal")
print("Upper:",list[0],"Lower:",list[1])
```

Output:-

Upper: 2 Lower: 6

9. Write a python program to create a function to check whether a string is a pangram or not.

```
import string
def ispangram(str):
        alphabet = "abcdefghijklmnopqrstuvwxyz"
        for char in alphabet:
                if char not in str.lower():
                        return False
        return True
string = 'the quick brown fox jumps over the lazy dog'
if(ispangram(string) == True):
        print("Yes")
else:
        print("No")
```

Output:-

Yes

10. Write a python program to create a function to check whether a string is an anagram or not.

```
def f1(word1,word2):
   word1=word1.lower().replace(" ","")
   word2=word2.lower().replace(" ","")
   return sorted(word1)==sorted(word2)
word1="Listen"
word2="Silent"
if f1(word1,word2):
   print(f"{word1} and {word2} are anagrams.")
else:
```

```
    print(f"{word1} and {word2} are not anagrams.")
```

Output:-

Listen and Silent are anagrams.