

# Python Functions

1. Write a Python function to find the maximum of three numbers.
2. Write a Python function to sum all the numbers in a list.
3. Write a Python program to reverse a string.
4. Write a Python function that accepts a string and counts the number of upper and lower case letters.  
*Sample String* : 'The quick Brow Fox'
5. Write a Python function that takes a list and returns a new list with distinct elements from the first list.  
*Sample List* : [1,2,3,3,3,3,4,5]  
*Unique List* : [1, 2, 3, 4, 5]
6. Write a python function which accepts a string from user and counts the vowels and consonant within it.
7. Python function that accepts different values as parameters and returns a list.
8. Write a program to print twin primes less than 1000. If two consecutive odd numbers are both prime then they are known as twin primes.
9. Write a Python program to create a lambda function that adds 15 to a given number passed in as an argument, also create a lambda function that multiplies argument x with argument y and prints the result.
10. Write a Python program to sort a list of dictionaries using Lambda. Sort on "color".

```
models = [  
    {'make': 'Nokia', 'model': 216, 'color': 'Black'},  
    {'make': 'Mi Max', 'model': '2', 'color': 'Gold'},  
    {'make': 'Samsung', 'model': 7, 'color': 'Blue'}  
]
```

11. Write a Python program to filter a given list to determine if the values in the list have a length of 6 using Lambda.

```
weekdays = ['Monday', 'Tuesday', 'Wednesday', 'Thursday', 'Friday', 'Saturday', 'Sunday']
```

12. Write a Python program that creates a list of dictionaries containing student information (name, age, grade) and uses the filter function to extract students with a grade greater than or equal to 95.
13. Write a Python program that creates a list of tuples, each containing a city name and its population. Use the filter function to extract cities with a population greater than 2 million.

```
cities = [  
    ("New York", 8500000),  
    ("Los Angeles", 4000000),  
    ("Chicago", 2700000),  
    ("Houston", 2300000),  
    ("Phoenix", 1600000),  
    ("Philadelphia", 1500000),  
    ("San Antonio", 1500000),  
]
```

14. Write a Python program to find palindromes in a given list of strings using Lambda.

```
texts = ["php", "w3r", "Python", "abcd", "Java", "aaa"]
```

15. Sum the length of the names of a given list of names after removing the names that starts with a lowercase letter

```
sample_names = ['sally', 'Dylan', 'rebecca', 'Diana', 'Joanne', 'keith']
```

16. Find the list with maximum and minimum length using lambda

```
list1 = [[0], [1, 3], [5, 7], [9, 11], [13, 15, 17]]
```

17. Remove all elements from a given list present in another list using lambda

```
list1 = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
list2 = [2, 4, 6, 8]
```

18. Write a Python program to triple all numbers in a given list of integers. Use Python map.

```
nums = (1, 2, 3, 4, 5, 6, 7)
```

19. Write a Python program to convert all the characters into uppercase and lowercase and eliminate duplicate letters from a given sequence. Use the map() function.

```
chrars = {'a', 'b', 'E', 'f', 'a', 'i', 'o', 'U', 'a'}
```

20. Write a Python program to split a given dictionary of lists into list of dictionaries using the map function.

```
marks = {'Science': [88, 89, 62, 95], 'Language': [77, 78, 84, 80]}
```

21. Example to multiply more than values using reduce() function with two parameters