

Q1. Create a python program to sort the given list of tuples based on integer value using lambda function. [('Sachin Tendulkar', 34357), ('Ricky Ponting', 27483), ('Jack Kallis', 25534), ('Virat Kohli', 24936)]

Ans:- first sorted in ascending order

```
In [5]: # first we can write list of tuples
players = [('Sachin Tendulkar', 34357), ('Ricky Ponting', 27483), ('Jack Kallis', 25534), ('Virat Kohli', 24936)]

# sort the list of tuples based on the integer value
sorted_players = sorted(players, key = lambda x : x[1])

# print the sorted list
print(sorted_players)
```

```
[('Virat Kohli', 24936), ('Jack Kallis', 25534), ('Ricky Ponting', 27483), ('Sachin Tendulkar', 34357)]
```

```
In [9]: # Now sorted in descending order
# In Descending order we can use reverse = True
# first we can write list of tuples
players = [('Sachin Tendulkar', 34357), ('Ricky Ponting', 27483), ('Jack Kallis', 25534), ('Virat Kohli', 24936)]

# sort the list of tuples based on the integer value
sorted_players = sorted(players, key = lambda x : x[1], reverse = True)

# print the sorted list
print(sorted_players)
```

```
[('Sachin Tendulkar', 34357), ('Ricky Ponting', 27483), ('Jack Kallis', 25534), ('Virat Kohli', 24936)]
```

Q2. Write a Python Program to find the squares of all the numbers in the given list of integers using lambda and map functions. [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

Ans:-

```
In [11]: #first write list of integer
numbers = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

#According to question we are using lambda and map function
```

```
squares = list(map(lambda x : x**2 , numbers))

#Now print the squares
print(squares)
```

[1, 4, 9, 16, 25, 36, 49, 64, 81, 100]

Q3. Write a python program to convert the given list of integers into a tuple of strings. Use map and lambda functions
 Given String: [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
 Expected output: ('1', '2', '3', '4', '5', '6', '7', '8', '9', '10')

Ans:-

```
In [15]: # Write list of integers
integer_list = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

#According to question using map and lambda function
string_tuples = tuple(map(lambda x : str(x) , integer_list))

#now print the string_tuples
print(string_tuples)
```

('1', '2', '3', '4', '5', '6', '7', '8', '9', '10')

Q4. Write a python program using reduce function to compute the product of a list containing numbers from 1 to 25.

Ans :-

```
In [20]: # first import the reduce function
from functools import reduce

#According to question list of numbers from 1 to 25

numbers = list(range(1,26))

#function to compute two numbers
#with create def function
def multiply(x,y):
    return x*y
```

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#Now compute the product using reduce function
product = reduce(multiply ,numbers)

#Now print the product
print(product)
```

```
15511210043330985984000000
```

Q5. Write a python program to filter the numbers in a given list that are divisible by 2 and 3 using the filter function. [2, 3, 6, 9, 27, 60, 90, 120, 55, 46]

Ans :-

```
In [23]: # First write the list of numbers
numbers = [2, 3, 6, 9, 27, 60, 90, 120, 55, 46]

#Function to check if a number is divisible by both 2 and 3
#First create a function with def function
def is_divisible_by_2_and_3(n):
    return n%2==0 and n%3==0

#Now filter the numbers is divisible by both 2 and 3
filtered_numbers = list(filter(is_divisible_by_2_and_3 , numbers))

#Now print the filtered numbers
print(filtered_numbers)
```

```
[6, 60, 90, 120]
```

Q6. Write a python program to find palindromes in the given list of strings using lambda and filter function. ['python', 'php', 'aba', 'radar', 'level']

Ans:-

```
In [26]: # First write the list of string
words = ['python', 'php', 'aba', 'radar', 'level']

#According to question filter polindrimes using Lambda and filter function

palindromes = list(filter(lambda word : word == word[::-1] ,words))

#Now print the palindromes
print(palindromes)
```

```
['php', 'aba', 'radar', 'level']
```