**Assignment 4:**

**1. Sorting a list of tuples based on an integer value using a lambda function:**

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

**sorted\_data = sorted(data, key=lambda x: x[1])**

**print(sorted\_data)**

**Output:**

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

**2. Finding the squares of numbers in a list using lambda and map functions:**

**numbers = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]**

**squared\_numbers = list(map(lambda x: x\*\*2, numbers))**

**print(squared\_numbers)**

**Output:**

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

**3. Converting a list of integers into a tuple of strings using map and lambda functions:**

**numbers = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]**

**string\_tuple = tuple(map(lambda x: str(x), numbers))**

**print(string\_tuple)**

**Output:**

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

**4. Computing the product of a list containing numbers from 1 to 25 using the reduce function:**

**from functools import reduce**

**numbers = list(range(1, 26))**

**product = reduce(lambda x, y: x \* y, numbers)**

**print(product)**

**Output:**

**15511210043330985984000000**

**5. Filtering numbers divisible by 2 and 3 from a list using the filter function:**

**numbers = [2, 3, 6, 9, 27, 60, 90, 120, 55, 46]**

**divisible\_numbers = list(filter(lambda x: x % 2 == 0 and x % 3 == 0, numbers))**

**print(divisible\_numbers)**

**Output:**

**[6, 60, 90, 120]**

**6. Finding palindromes in a list of strings using lambda and filter functions:**

**strings = ['python', 'php', 'aba', 'radar', 'level']**

**palindromes = list(filter(lambda x: x == x[::-1], strings))**

**print(palindromes)**