DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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WORKSHEET 2.4

Name: SABHYA MAHAJAN
Branch: CSE
Semester: 4th
Subject Name: Python

UID: 21BCS9200
Section/Group: 801-A
Date of Performance: 06/04/2023
Subject Code: 21CSP-259

1. Aim:

Program to demonstrate creation and accessing of tuples and apply different kinds of operations on them.

2. Objective:

1. Write a Python program to replace last value of tuples in a list
2. Write a Python program to remove an empty tuple(s) from a list of tuples
3. Write a Python program calculate the product, multiplying all the numbers of a given tuple.
4. Write a Python program to convert a tuple of string values to a tuple of integer values
5. Write a Python program to check if a specified element presents in a tuple of tuples

3. Source Code:

a) Write a Python program to replace last value of tuples in a list

```
print("Name - SABHYA MAHAJAN, UID - 21BCS9200")
list = [(5, 2, 3), (4, 7, 6), (8, 9, 6)]
print([t[:-1] + (10,) for t in list])
```

b) Write a Python program to remove an empty tuple(s) from a list of tuples

```
print("Name - SABHYA MAHAJAN, UID - 21BCS9200")
def Remove(tuples):
    tuples = [t for t in tuples if t]
    return tuples
tuples = [ (),
    ("ram", "15", "8"),
    (),
    ("laxman", "sita"),
    ("krishna", "akbar", "45"),
    ("", ""),
    (),
]
print(Remove(tuples))
```

c) Write a Python program calculate the product, multiplying all the numbers of a given tuple

```
print("Name - SABHYA MAHAJAN, UID - 21BCS9200")


def prod(val):
    res = 1
    for ele in val:
        res *= ele
    return res


test_tup = (7, 8, 9, 1, 10, 7)

print("The original tuple is : " + str(test_tup))

res = prod(list(test_tup))

print("The product of tuple elements are : " + str(res))
```

d) Write a Python program to convert a tuple of string values to a tuple of integer values

```
print("Name - SABHYA MAHAJAN, UID - 21BCS9200")
test_str = "(7, 8, 9)"

print("The original string is : " + test_str)

res = tuple(
    int(num)
    for num in test_str.replace("(", "").replace(")", "").replace("...", "").split(", ")
)

print("The tuple after conversion is : " + str(res))
```

e) Write a Python program to check if a specified element presents in a tuple of tuples

```
print("Name - SABHYA MAHAJAN, UID - 21BCS9200")
test_tuple = (("geeksforgeeks", "gfg"), ("CS_Portal", "best"))

print("The original tuple is " + str(test_tuple))

if any("geeksforgeeks" in i for i in test_tuple):
    print("geeksforgeeks is present")
else:
    print("geeksforgeeks is not present")
```

4. Output:

a)

```
Name - SABHYA MAHAJAN, UID - 21BCS9200
[(5, 2, 10), (4, 7, 10), (8, 9, 10)]
```

b)

```
PS C:\Users\lenovo\OneDrive\Desktop\PRO\Python> & C:/Users/lenovo/AppData/Local/Pro
grams/Python/Python311/python.exe c:/Users/lenovo/OneDrive/Desktop/PRO/Python/first
.py
Name - SABHYA MAHAJAN, UID - 21BCS9200
[('ram', '15', '8'), ('laxman', 'sita'), ('krishna', 'akbar', '45'), ('', '')]
```

C)

```
Name - SABHYA MAHAJAN, UID - 21BCS9200
The original tuple is : (7, 8, 9, 1, 10, 7)
The product of tuple elements are : 35280
```

D)

```
Name - SABHYA MAHAJAN, UID - 21BCS9200
The original string is : (7, 8, 9)
The tuple after conversion is : (7, 8, 9)
```

E)

```
Name - SABHYA MAHAJAN, UID - 21BCS9200
The original tuple is (('geeksforgeeks', 'gfg'), ('CS_Portal', 'best'))
geeksforgeeks is present
```