24BIT167 - VANDITA NAWANI

Aim : To implement the various operations of tuple in python, including counting of elements, extracting of elements and modifying tuples

Hardaware and Software reqiurements : Hardware: 16GB RAM, Software: Python (3.x.)

System Configration: Windows 11, Google Colab

Theory : A tuple is an immutuable, ordered collection of elements. Unlike lists, tuple cannot be modified after creation, but they support indexing, slcing and iteration

a list of boys and girls. Boys are stored in tuple. program to find the names of boys and girls

```
name= [('john', 'ram'), 'meeta', ('smith', 'roy'), 'vandita']
boy = 0
girl = 0
for a in name:
  if isinstance(a, tuple):
    boy+=1
  else:
    girl+=1

print("NUMBER OF BOYS", boy)
print("THE NUMBER OF GIRLS", girl)
```

```
NUMBER OF BOYS 2
THE NUMBER OF GIRLS 2
```

A list containing roll no. , name age of students. write a program to make three different list of roll , name and age

```
stu = [(120, 'priya', 22), (200, 'riya', 15), (167, 'palak', 20)]
roll  = [x[0] for x in stu]
name = [x[1] for x in stu]
age = [x[2] for x in stu]

print("THE ROLL NUMBERS ARE:", roll)
print("THE NAME ARE:", name)
print("THE AGES ARE:", age)
```

```
THE ROLL NUMBERS ARE: [120, 200, 167]
THE NAME ARE: ['priya', 'riya', 'palak']
THE AGES ARE: [22, 15, 20]
```

suppose the date is expressed as tuple (d,m,y). take two dates and find the days between then

```
from datetime import date
d1 = (28,1,2007)
d2 = (10, 7, 2009)
d1_tup = date(d1[2], d1[1], d1[0])
d2_tup = date(d2[2], d2[1], d2[0])
diff = abs((d2_tup - d1_tup))
print(diff)
```

```
894 days, 0:00:00
```

create a list of tuples containing food items and its price. Sort the tuples in descending order of price

```
food = [("Sandwitch", 200), ("Pizza", 300), ("Biryani", 500)]
food.sort(key=lambda x: x[1], reverse= True )
print(food)
```

```
[('Biryani', 500), ('Pizza', 300), ('Sandwitch', 200)]
```

Remove a empty tuple from a list of tuples

```
tuple=[('bag', 'purse'), (), (14,15), ("Vandita"), ()
l = []
for x in tuple:
  if len(x)!=0:
    l.append(x)
```

```
[('bag', 'purse'), (14, 15), 'Vandita']
```

Modify an element in a tuple

```
tup = ('bag', 'purse', 'cake', 'pastries', 'pudding')
lst = list(tup)
lst[-1] = 'heels'
tup2 = tuple(lst)
print(tup)
```

```
('bag', 'purse', 'cake', 'pastries', 'pudding')
```

Delete an element of a tuple

```
tup = (1,2,3,4,5,6,7)
temp_list = list(tup)
temp_list.remove (2)
new_tup = tuple(temp_list)
print(new_tup)
```

```
(1, 3, 4, 5, 6, 7)
```

what will be output of the following code

```
lst = [('X', 'Y', 'Z'), 40, 50, 60]
a = lst[0]
print(a)
```

```
('X', 'Y', 'Z')
```