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| [LAB TASK NO- 7] |
| **[KABEER AHMED (SE-28)]** |

DATE

**Program 1:** Write a program to create an empty tuple**.**

**INPUT:**

*#Create an empty tuple*x = ()  
print(x)  
*#Create an empty tuple with tuple() function built-in Python*tuple1 = tuple()  
print(tuple1)

**OUTPUT:**

()

()

**Program 2:** Write a Python program to create a tuple with different data types.

**INPUT:**

tuple2 = (**"tuple"**, **False**, 3.2, 1)  
print(tuple2)

**OUTPUT:**

('tuple', False, 3.2, 1)

**Program 3:** Write a Python program to get the 4th element and 4th element from last of a tuple.

**INPUT:**

tuplex = (**"U"**, **"I"**, **"T"**, 2, 0, 1, 8, **"b"**, **"a"**, **"t"**, **"c"** , **"h"**)  
item = tuplex[3]  
print(item)  
item1 = tuplex[-4]  
print(item1)

**OUTPUT:**

2

a

**PROGRAMMING EXERCISE**

**1.Use inbuilt min and max functions to perform the task of getting the minimum and maximum value of in a list of tuples for a particular element position in a tuple.**

**Sample = [(2, 3), (4, 7), (8, 11), (3, 6)]**

**Input:**

Sample = [(2, 3), (4, 7), (8, 11), (3, 6)]  
ind1=max(Sample)[0],min(Sample)[0]  
ind2=max(Sample)[1],min(Sample)[1]  
print(**"The Max and Min value in 1 index"**,ind1)  
print(**"The Max and Min value in 2 index"**,ind2)

**Output:**

The Max and Min value in 1 index (8, 2)

The Max and Min value in 2 index (11, 3)

**2.A dartboard of radius 10 and the wall it is hanging on are represented using the two dimensional coordinate system, with the board’s center at coordinate (0; 0). Variables x and y store the x- and y-coordinate of a dart hit. Write an expression using variables x and y that evaluates to True if the dart hits (is within) the dartboard, and evaluate the expression for these dart coordinates:**

**(a) (0, 0)**

**Input:**

**from** math **import**\*  
t1=(0,0)  
t2=(0,0)  
l1=(t2[0]-t1[0])\*\*2  
l2=(t2[1]-t1[1])\*\*2  
r=sqrt(l2+l1)  
**if** r<10:  
 print(**True**)  
**else**:  
 print(**False**)

**Output:**

True

**(b) (10, 10)**

**Input:**

**from** math **import**\*  
t1=(0,0)  
t2=(10,10)  
l1=(t2[0]-t1[0])\*\*2  
l2=(t2[1]-t1[1])\*\*2  
r=sqrt(l2+l1)  
**if** r<10:  
 print(**True**)  
**else**:  
 print(**False**)

**Output:**

False

**(c) (6, 6)**

**Input:**

**from** math **import**\*  
t1=(0,0)  
t2=(6,6)  
l1=(t2[0]-t1[0])\*\*2  
l2=(t2[1]-t1[1])\*\*2  
r=sqrt(l2+l1)  
**if** r<10:  
 print(**True**)  
**else**:  
 print(**False**)

**Output:**

True

**(d) (7, 8)**

**Input:**

**from** math **import**\*  
t1=(0,0)  
t2=(7,8)  
l1=(t2[0]-t1[0])\*\*2  
l2=(t2[1]-t1[1])\*\*2  
r=sqrt(l2+l1)  
**if** r<10:  
 print(**True**)  
**else**:  
 print(**False**)

**Output:**

False

**3. Write Python expressions corresponding to these statements:**

**(a)The number of characters in the word "anachronistically" is 1 more than the number of characters in the word "counterintuitive."**

**Expression:**

len(**"anachronistically"**)>len(**"counterintuitive"**)

**(b)The word "misinterpretation" appears earlier in the dictionary than the word "misrepresentation".**

**Expression:**

a=**"misinterpretation"**b=**"misrepresentation"**a<b

**(c)The letter "e" does not appear in the word "ﬂoccinaucinihilipiliﬁcation."**

**Expression:**

**for** i **in "ﬂoccinaucinihilipiliﬁcation"**:  
 i!=**"e"**

**(d)The number of characters in the word "counterrevolution" is equal to the sum of the number of characters in words "counter" and "resolution."**

**Expression:**

a=len(**"counterrevolution"**)  
b=len(**"counter"**)+len(**"resolution"**)

**a==b**

**4.Write a program in Python that holds an empty tuple and fill that tuple after taking user input for names of provinces of Pakistan and fill an empty tuple and print.**

**INPUT:**

t1=tuple()  
l1=list(t1)  
**for** i **in** range(1,5):  
 pname=input(**"Enter the Name of Provience Of Pakistan"**)  
 l1.append(pname)  
t2=tuple(l1)  
print(t2)

**OUTPUT:**

Enter the Name of Province Of Pakistan **Punjab**

Enter the Name of Province Of Pakistan **Baluchistan**

Enter the Name of Province Of Pakistan **Sindh**

Enter the Name of Province Of Pakistan **KPK**

('Punjab', 'Baluchistan', 'Sindh', 'KPK')