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ID: 253-16-017
Section: 23 (A)
Date: 23-11-25

Marks: 11

Department of Computing and Information System (CIS)

Class Test-2, Fall 2025

Course Code: CIS121, Course Title: Introduction to Industry 4.0

Time: 30 Minutes **Marks: 15**

1. Write the output of the following codes: [2.5 × 2]

a)
```
total = 0
for i in range(5):
    if i == 3:
        continue
    total = total + i
print("Total:", total)
```

Output: Total: 12

b)
```
numbers = [10, 20, 30, 40, 50]
numbers[3] = 60
numbers.append(70)
numbers.insert(1, 15)
print("Updated list:", numbers)
```

Output: Updated list : [10, 15, 20, 30, 60, 50, 70]

2. Explain the similarities between list and tuple with example. [4]

There are few similarities between list and tuple.

(i) Different types of data (int, string, float) can be inserted inside both list and tuple. e.g: list = [1, 2.2, diu], tuple = (1, 2.2, diu).

(ii) In list data can be inserted at the end of the list using append(). In the same way data can be inserted at the end of the tuple using '+='

(iii) List:

```
lst = [1, 2, 5]
lst.append(2)
print(lst)
```

Output: [1, 2, 5, 2]

Tuple:

```
tpl = (1, 5, 7, 8)
tpl += (10,)
print(tpl)
```

Output : (1, 5, 7, 8, 10)

(iii) Both list and tuple needs to be ~~set inside~~ brackets and separated by comma.

List:

```
lst = [0, 2, 3]
```

Tuple:

```
t = (1, 2, diu)
```

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3. Write a Python program to determine bus fare based on distance traveled using the following rules: [6]

i. *Distance < 5 km → 10 Taka*
ii. *Distance 5 to 10 km → 20 Taka*
iii. *Distance 11 to 20 km → 30 Taka*
iv. *Distance 21 to 50 km → 50 Taka*
v. *Distance > 50 km → 100 Taka*

Sample Input: 15
Sample Output: 30 Taka

Note: The distance must be taken from the user using the input() command and the bus fare should be calculated based on the given rules.

```
dist=0
print(input("Enter the distance:", dist))

if dist < 5 :
    print("10 Taka")
elif dist <= 10 :
    print("20 Taka")
elif dist <=20 :
    print("30 Taka")
elif dist <=50:
    print("50 Taka")
elif dist
else:
    print("100 Taka")
```

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