

21/08/25

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① Find outputs

```
a = 25, 10.8, 3+4j, 'H4d', True, None, 'H4d', 25
```

```
print(a) # (25, 10.8, 3+4j, 'H4d', True, None, 'H4d', 25)
```

```
print(type(a)) # <class 'tuple'>
```

```
a[3] = 'sec' # Error, Because Tuple is immutable.
```

```
a[3:6] = 60, 70, 80 # Error.
```

② Find outputs

```
a = (1, 2, 3) # Tuple object
```

```
b = (4, 5, 6) # Tuple object.
```

```
print(a, id(a)) # (1, 2, 3), memory address.
```

reference is added
 $a + b$ # Tuple is immutable, Assign to (1, 2, 3, 4, 5, 6)

```
print(a, id(a)) # (1, 2, 3, 4, 5, 6)   
 # a points to new tuple of 6 elem
```

③ Find outputs

```
a = (1, 2, 3) # a is variable, Tuple is object (1, 2, 3)
```

```
b = (4, 5, 6) # New tuple (4, 5, 6)
```

```
print(a, id(a)) # (1, 2, 3) memory address
```

```
a = a + b # a + b is an new tuple → (1, 2, 3, 4, 5, 6)
```

```
print(a, id(a)) # (1, 2, 3, 4, 5, 6)
```

1) What are the outputs if input is (10, 20, 30, 40)?

```
a = input('Enter Tuple :') # (10, 20, 30, 40)
```

```
print(a) # (10, 20, 30, 40)
```

```
print(type(a)) # <class 'str'>
```

```
b = eval(a) # (10, 20, 30, 40)
print(b) # (10, 20, 30, 40)
print(type(b)) # <class 'tuple'>
print(len(b)) # 4
```

⑤ Find outputs

```
a = (10, [20, 30, 40], 50, 60) # Tuple in list
a[1][0] = 70 # (10, [70, 30, 40], 50, 60)
print(a) # (10, [70, 30, 40], 50, 60)
a[1] = [80, 90, 100] # Error, Because Tuple is immutable
print(a) # Error.
```

⑥ Find outputs

```
a = [10, (20, 30, 40), 50, 60] # a is an list
a[1][0] = 70 # Error, Because Tuple are immutable object
print(a) # Error
a[1] = [80, 90] # Error
print(a) # Error. [10, [80, 90], 50, 60]
```

⑦ Find outputs

```
x = 25, 10.8, 'Hyd', True
a, b, c, d = x # 25, 10.8, 'Hyd', True
print(a) # 25
print(b) # 10.8
print(c) # 'Hyd'
print(d) # 'True'
p, q, r = x # Error, Because unpack Elements. To many elements
a, b, c, d, e = x # error not enough values to unpack
```

8) find outputs

a = 25 # int

b = 10.8 # float

c = 'H4d' # string

d = True # bool

x = a, b, c, d

print(x) # (25, 10.8, 'H4d', True)

print(type(x)) # < class 'tuple' >

9) find outputs

x = 25, 10.8, 'H4d', True # Unpacking, tuple

a, *b, c = x # 25, True, [10.8, 'H4d']

print(a) # 25

print(b) # [10.8, 'H4d']

print(c) # True

10) find outputs

tpl = 25, 10.8, 'H4d', True # tuple

a, b, *c, d, e = tpl # Error, can not unpack to values.

print(a) # 25

print(b) # 10.8

print(c) # []

print(d) # True

print(e)

11) find outputs

x = 25, 10.8, 'H4d', True, 3+4j # tuple

a, b, -, d, - = x # 25, 10.8, 'H4d', True, 3+4j

print(a) # 25

print(b) # 10.8

print(c) # 3+4j

```
print(d) # True  
print(-) # 3+4j
```

(12) Tuple 1) function demo program

```
a = range(100, 150, 10) # range object
```

```
b = tuple(a) # (100, 110, 120, 130, 140)
```

```
print(b) # (100, 110, 120, 130, 140)
```

```
print(type(b)) # <class 'tuple'>
```

```
c = [10, 20, 15, 18]
```

```
d = tuple(c)
```

```
print(d) # (10, 20, 15, 18)
```

```
e = tuple('Uamsi')
```

```
print(e) # ('U', 'a', 'm', 's', 'i')
```

```
print(tuple(25)) # Error, Because 25 is an int, not sequence
```

```
print(tuple()) # Empty tuple
```

Methods

only two methods: 1) count
2) index