MCQ

1 What will be the output of the following code snippet?

```
def func(a, b):
  return b if a == 0 else func(b % a, a)
print(func(30, 75))
```

a) **10**
b) **20**
c) **15**
d) **0**

Answer:

1. Starts with 30 and 75.
2. Swaps to 15 (remainder of 75/30) and 30.
3. Swaps to 0 (remainder of 30/15) and 15.
4. Stops because 0 is reached.
5. Returns 15 as the answer.

So, the code correctly says the biggest common divisor of 30 and 75 is 15.

```
2 numbers = (4, 7, 19, 2, 89, 45, 72, 22)
sorted_numbers = sorted(numbers)
even = lambda a: a % 2 == 0
even_numbers = filter(even, sorted_numbers)
print(type(even_numbers))
```

a) **Int**
b) **Filter**
c) **List**
d) **Tuple**

Answer:

1. **It takes a bunch of numbers and sorts them.**
2. **It creates a sieve called even_numbers that only allows even numbers.**
3. **It checks the type of the sieve, which is a Filter.**

3) As what datatype are the *args stored, when passed into

a) Tuple

b) List

c) Dictionary

d) none

Answer: *args is like a magic gift bag that collects all the arguments you pass to a function.
Inside the function, the gifts are unpacked into a neat stack (tuple).
You can't change the order of the gifts in the stack, but you can still work with them.

4) set1 = {14, 3, 55}

set2 = {82, 49, 62}

set3 = {99,22,17}

print(len(set1 + set2 + set3))

a) 105
b) 270
c) 0
d) Error

Answer:

Imagine you mix three piles of numbers, but nobody wants doubles. You count these unique guys...and get zilch! No twins, no triplets, just zero distinct dudes lurking in that combined set. So, gotta pick
c) 0

5) What keyword is used in Python to raise exceptions?

a) raise

b) try

c) goto

d) except

Answer:

In Python, the raise keyword is the designated mechanism for proactively signaling exceptions. It's akin to raising a red flag to indicate an error or exceptional condition that necessitates attention and handling within the code flow.

6) Which of the following modules need to be imported to handle date time computations in Python?

a) timedate

b) date

c) datetime

d) time

Answer:

Operations involving dates and times in Python, the datetime module is the expert resource.

7) What will be the output of the following code snippet?

print(43 + (7 + 5)**(1 + 1))**

a) 248
b) 169
c) 208
d) 233

Answer:

1. **Multiply 4 by itself 3 times: 4**3 becomes 4 x 4 x 4 = 64.**
2. **Add 7 and 5: (7 + 5) becomes 12.**
3. **Square the result from step 2: 12**2 becomes 12 x 12 = 144.**
4. **Add the results from steps 1 and 3: 64 + 144 = 208.**

So, the final answer is c) 208.

8) Which of the following functions converts date to corresponding time in Python?

a) strptime

b) strftime

c) both a) and b)

d) None

Answer:
strftime for dates and times.

The python tuple is____in nature.

e) mutable

b)immutable

c)unchangeable

d) none

Answer:

b)In Python, Tuples are immutable, which means their elements cannot be modified after creation.

9) 10)

The____is a built-in function that returns a range object that consists series of integer numbers, which we can iterate using a for loop.

A. range()
B. set()
C. dictionary{}
D. None of the mentioned above

Answer: a) range() is Python's memory-savvy way to generate number sequences. It creates a range object that yields numbers on demand, saving memory and being perfect for loops.

Question 11

Amongst which of the following is a function which does not have any name?

A. Del function
B. Show function
C. Lambda function
D. None of the mentioned above

Answer: C)
Lambda functions are like secret agents: they execute tasks without revealing their names. Defined with lambda, they're ideal for concise, one-off operations

Question 12

The module Pickle is used to____.

A. Serializing Python object structure
B. De-serializing Python object structure
C. Both A and B
D. None of the mentioned above

Answer:

Pickle packs (serializes) and unpacks (de-serializes) Python objects, making it for object persistence. So, c) Both A and B

Question 13

Amongst which of the following is / are the method of convert Python objects for writing data in a binary file?

A. set() method
B. dump() method
C. load() method
D. None of the mentioned above

Answer: b) dump() method is the only option that accurately describes a method for converting Python objects for writing data in a binary file

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Amongst which of the following is / are the method used to unpickling data from a binary file?

A. load()
B. set() method
C. dump() method
D. None of the mentioned above

Answer: a) when you need to bring back those pickled objects to life, load() is the key!

15.

A text file contains only textual information consisting of____.

A. Alphabets
B. Numbers
C. Special symbols
D. All of the mentioned above

Answer: D) All of the mentioned above

17)

Which of the following lines of code will create an empty dictionary named captains?

a) captains = {dict}
b) type(captains)
c) captains.dict()
d) captains = {}

Answer: d) To create an empty dictionary in Python, use empty curly braces

18) Now you have your empty dictionary named captains. It’s time to add some data!

Specifically, you want to add the key-value pairs "Enterprise": "Picard", "Voyager": "Janeway", and "Defiant": "Sisko".

Which of the following code snippets will successfully add these key-value pairs to the existing captains dictionary?

a) captains{"Enterprise" = "Picard"}

captains{"Voyager" = "Janeway"}

captains{"Defiant" = "Sisko"}

b) captains["Enterprise"] = "Picard"

captains["Voyager"] = "Janeway"

captains["Defiant"] = "Sisko"

c) captains = {

"Enterprise": "Picard",

"Voyager": "Janeway",

"Defiant": "Sisko",

}

d) None of the above

Answer:
The correct answer is b) captains["Enterprise"] = "Picard" captains["Voyager"] = "Janeway" captains["Defiant"] = "Sisko"

19) You’re really building out the Federation Starfleet now! Here’s what you have:

```
captains = {

    "Enterprise": "Picard",

    "Voyager": "Janeway",

    "Defiant": "Sisko",

    "Discovery": "unknown",
```

}Now, say you want to display the ship and captain names contained in the dictionary, but you also want to provide some additional context. How could you do it?

a) for item in captains.items():

```
    print(f"The [ship] is captained by [captain].")
```

b) for ship, captain in captains.items():

```
    print(f"The {ship} is captained by {captain}.")
```

c) for captain, ship in captains.items():

```
    print(f"The {ship} is captained by {captain}.")
```

d) All are correct

Answer : d) All are correct

20)

You’ve created a dictionary, added data, checked for the existence of keys, and iterated over it with a for loop. Now you’re ready to delete a key from this dictionary:

```
captains = {

    "Enterprise": "Picard",

    "Voyager": "Janeway",

    "Defiant": "Sisko",

    "Discovery": "unknown",

}
```

What statement will remove the entry for the key "Discovery"?

a) del captains
b) captains.remove()
c) del captains["Discovery"]
d) captains["Discovery"].pop()

Answer: C) del captains["Discovery"]
To remove the "Discovery" entry, use del captains["Discovery"].
del is the keyword for deleting objects in Python.
captains["Discovery"] targets the specific key-value pair you want to remove.
This precisely erases that pair from the dictionary.