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

Explanation: Initial call is func(30,75). Since a is not equal to 0, it goes into recursive call with argument (75%30,30) which is equal to func(15,30). again since a is not equal to 0 and it goes to recursive call with argument (30%15,15) which is equal to func(0,15). Now since a is equal to 0 it return value of b which 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

Explanation: Prints the type of object resulting from filter operation.

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

a) Tuple

b) List

c) Dictionary

d) none

Explanation: In an arbitary function when *args is passed as an argument, the parameters passed when called is stored in a tuple.

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

Explanation: Set does not support + operator.

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

a) raise
b) try
c) goto
d) except

Explanation: raise keyword is used to raise an exception that occurs in python.

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

Explanation: datetime module need to imported to performany time and date related operations in python

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

Explanation: Firstly brackets will be evaluated as follows:
(4 power 3 + 12 power 2)
= 64 + 144
= 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

Explanation: strptime() is used to convert date to corresponding time.

9)The python tuple is _____ in nature.

a) mutable
b)immutable

c)unchangeable

d) none

Explanation: Python tuple are immutable as we can't change the elements once the tuple got created.

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

Explanation: Range() function allows us to iterate over the sequence of integer numbers in a for loop.

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

Explanation: lambda() is an anonymous function.

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

Explanation: Pickle module of python is used to serialize the python object and deserialize back to it.

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

Explanation: dump() method is used to serialize data from some data type to object type

14) 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

Explanation: load() method is used to convert / deserialize data from object type to any other type.

15) A text file contains only textual information consisting of ___.

A. Alphabets

B. Numbers

C. Special symbols

D. All of the mentioned above

Explanation: A text file contains Alphabets, Numbers as well as special symbols. And it can be saved as .txt file format.

16) Which Python code could replace the ellipsis (...) below to get the following output? (Select all that apply.)

```
captains = {
 "Enterprise": "Picard",
 "Voyager": "Janeway",
 "Defiant": "Sisko"
}
```

Enterprise Picard,

Voyager Janeway

Defiant Sisko

a) for ship, captain in captains.items():
    print(ship, captain)

b) for ship in captains:
    print(ship, captains[ship])

c) for ship in captains:
    print(ship, captains)

d) both a and b

Explanation: We can iterate the dictionary toaccess the elements using items() method as well as using indexing through the dictionary name.

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 = {}

Explanation: Dictionary is a datatype which contains key value pair and it can be declared as: dictionary = {key:value}. So empty dictionary captain can be created as captains = {}.

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

Explanation: Adding data in the empty dictionary is done by using a new index key and assigning a value to it. If we want to add data to already created dictionary then we can do it using dictnary_name[key] = value.

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

Explanation: The captains.items() function will iterate through each key value pair and will generate the text accordingly.

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()

Explanation: del keyword is used to delete specific key value pair when passed in as mentioned. wheras pop required argument of the key which needs to be deleted.