Assignment 1 -MCQ

Q1) 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

Ans.1) The answer is c)15. The code calculates the GCD(Greatest common Divisor) for the given numbers 30 and 75. It does so by returning b when the value of a=0 and till the time a!=0 the ‘else’ calls the function itself and assigns the modulus value of b%a(remainder) to ‘a’ and b is replaced by the ‘a’ value.

Q2)
```
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

Ans.2) The answer is b) Filter as the filter function always returns a filter object.

Q3) As what datatype are the *args stored, when passed into
a) Tuple
b) List
c) Dictionary
d) none

Ans.3) Collected arguments using *args will always be a tuple regardless of whether its passed inside a tuple,list,dictionary or nothing.

Q4) 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

Ans.4) The right answer is d)Error. It throws a type error saying “Type Error: unsupported operand type(s) for +: 'set' and 'set'”, because python does not support set concatenation using the ‘+’ operator. However we can use the union operator to do so eg. new_set=set1.union(set2,set3).

Q5) What keyword is used in Python to raise exceptions?
a) raise
b) try
c) goto
d) except

Ans.5) The raise keyword is used. So the right ans is a)raise

Q6) Which of the following modules need to be imported to handle date time computations in
Python?
a) timedate
b) date
c) datetime
d) time

Ans.6) The datetime module. C)datetime is the right answer

Q7) What will be the output of the following code snippet?
print(4**3 + (7 + 5)**(1 + 1))

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

Ans.7) The output will be c)208 using the BODMAS rule. First brackets will be solved and then the orders and then addition.

Q8) Which of the following functions converts date to corresponding time in Python?
a) strptime
b) strftime
c) both a) and b)
d) None

Ans.8) The ans is c) both a)and b). The strptime function converts string to datetime object whereas strftime does just the opposite.

Q9) The python tuple is _____ in nature.
a) mutable
b)immutable
c)unchangeable
d) none

Ans.9) The answer is b) Immutable, meaning it cant be edited after creation.

Q10)
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

Ans.10) The answer is a) Range

Q11)
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

Ans.11) c)Lambda Function has not specific name given in python. It is often called as a anonymous function. This one function helps us do many tasks

Q12)
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

Ans.12.) This topic has not been taught by datatrained yet, may be it will be covered in future classes. However in my learning process I have come across this topic and I think the answer is c)both a) and b). Pickle is used to convert python objects to bytes and vice-versa which are called serialization and de-serialization subsequently.

Q13)
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

Ans.13) b) Dump() method

Q14)
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

Ans.14) a)load()

Q15)
A text file contains only textual information consisting of ___.
A. Alphabets
B. Numbers
C. Special symbols
D. All of the mentioned above

Ans.15) d) All of the above

Q16)
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

Ans.16) The answer is d)both a) and b). Both use a slightly different method to get corresponding captain names but the output is the same.

Q17)
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 = {}

Ans.17) d)captains={}

Q18) 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

Ans.18) The answer is
c) captains = {

"Enterprise": "Picard",
"Voyager": "Janeway",
"Defiant": "Sisko",
}
We have already used it in question no 16.

Q19) 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

Ans.19) The right answer is
b) for ship, captain in captains.items():
print(f"The {ship} is captained by {captain}.")

Q20)
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()

Ans.20) The right answer is c) del captains[“Discovery”]