File 1 (DS2402)

1.) What will be the output of the following code snippet:

The answer is 15 as per below.

```
In [1]: def func(a,b):
            return b if a==0 else func (b%a,a)
        print(func(30,75))
```

```
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))

The answer is filter.

```
In [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))
```

```
<class 'filter'>
```

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

The answer is Tuple.

4.) set1 = {14, 3, 55}
set2 = {82, 49, 62}
set3={99,22,17}
print(len(set1 + set2 + set3))

The answer is Error.

```
In [6]: set1={14,3,55}
        set2={82,49,62}
        set3={99,22,17}
        print(len(set1+set2+set3))
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[6], line 4
      2 set2={82,49,62}
      3 set3={99,22,17}
----> 4 print(len(set1+set2+set3))

TypeError: unsupported operand type(s) for +: 'set' and 'set'
```

5.) What keyword is used in Python to raise exceptions:

The answer is Raise.

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

The answer is datetime module.

7.) What will be the output of the following code snippet:
print(43 + (7 + 5)**(1 + 1))**

The answer is 208.

```
In [7]: print(4**3+(7+5)**(1+1))
        208
```

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

The answer is strptime ().

9.) The python tuple is _____ in nature:

The answer is immutable.

10.) The _____ built-in function that returns a range object that consists series of integer numbers, which we can iterate using a for loop:

The answer is range() function.

11.) Which of the following is a function which does not have any name:

The answer is Lambda function.

12.) The module Pickle is used to ___:

The answer is Serializing and De-serializing Python object structure

13.) Which of the following is / are the method of convert Python objects for writing data in a binary file:

The answer is dump() method.

14.) Which of the following is / are the method used to unpickling data from a binary file:

The answer is load() method.

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

The answer is numbers, letters and special symbols.

16.) Which Python code could replace the ellipsis (...) below to get the following output:

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

Output: Enterprise Picard,
Voyager Janeway,
Defiant Sisko

The answer is

for ship, captain in captains.items():

print(ship, captain)

```
In [76]: captains = {
         "Enterprise": "Picard",
         "Voyager": "Janeway",
         "Defiant": "Sisko",
         }
```

```
In [80]: for ship, captain in captains.items():
             print(ship,captain)
         Enterprise Picard
         Voyager Janeway
         Defiant Sisko
```

17.) Which of the following lines of code will create an empty dictionary named captains:

The answer is captains = {}.

```
In [82]: captains={}
```

```
In [83]: captains
Out[83]: {}
```

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",
"Defiant": "Sisko".

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

The answer is captains = { "Enterprise": "Picard", "Voyager": "Janeway", "Defiant": "Sisko", }.

```
In [84]: captains = {
         "Enterprise": "Picard",
         "Voyager": "Janeway",
         "Defiant": "Sisko",
         }
```

```
In [85]: captains
Out[85]: {'Enterprise': 'Picard', 'Voyager': 'Janeway', '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:

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

```
In [86]: captains = {
         "Enterprise": "Picard",
         "Voyager": "Janeway",
         "Defiant": "Sisko",
         "Discovery": "unknown",
         }
```

```
In [88]: for captain,ship in captains.items():
             print(f"The {ship} is captained by {captain}.")

         The Picard is captained by Enterprise.
         The Janeway is captained by Voyager.
         The Sisko is captained by Defiant.
         The unknown is captained by Discovery.
```

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"?

The answer is del captains["Discovery"]

In [91]:
```
captains = {
"Enterprise": "Picard",
"Voyager": "Janeway",
"Defiant": "Sisko",
"Discovery": "unknown",
}
```

In [93]:
```
del captains["Discovery"]
```

In [94]:
```
captains
```

Out[94]:
```
{'Enterprise': 'Picard', 'Voyager': 'Janeway', 'Defiant': 'Sisko'}
```