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1. The answer of the code snippet is c).15.

The function takes 2 arguments and returns the value of b if a is 0. Otherwise it calls itself recursively with the arguments (b%a, a).

The first call is func(30,75) which returns func(15,30). The second call func(15,30) returns func(0,15). The third call func(0,15) returns 15 as a equals to 0.

2. The answer is b) Filter.

The code line number one creates a tuple and line number two sorts the number tuple. The lambda function checks if a number is even or not. Then the filter() method is used to filter out the even numbers from the sorted_numbers. Then it prints out the type of the resulting even_numbers object, that is filter object.

3. The answer is a). Tuple.
The data type of *args is tuple.

4. The answer is d). Error.

The reason is cannot concatenate sets using the + operator instead use the union() method to combine the sets.

5. The keyword used in python to raise an exception is a). raise.

6. The module used to handle date time in Python is answer c).
datetime. It provides classes to work with date and time. It also
built into Python just import the datetime module and no need
for additional installation.

7. The output of the code snippet is c).208.

Here is the calculations:

$= 4^{**}3 + (7 + 5)^{**}(1 + 1)$

$= 4^{**}3 + 12^{**}2$

$= 64 + 144$

$= 208$

8. The answer is b). strftime() function– which converts date to
corresponding time in Python.

9. The answer is b). immutable – which means cannot change
once the tuple is created.

10. The answer is a) range() function.

11. The answer is c) lambda function, which is also known as
anonymous function.

12. The answer is c) both A and B.

13. The answer is b) dump() method which is used for writing
objects data into a binary file.

14. The answer is a) load() method which is for reading data
from a binary file.

15. The answer is d) All of the above mentioned.

The text file may contain letters, numbers, characters or combination without special formatting.

16. The answer is d) both a and b.
17. The answer is d) `captains= {}`, which creates an empty dictionary.
18. The answer is b)
`captains["Enterprise"] = "Picard"`
`captains["Voyager"] = "Janeway"`
`captains["Defiant"] = "Sisko"`
19. The answer is b).
`for ship, captain in captains.items():`
 `print(f"The {ship} is captained by {captain}.")`
20. The answer is **c) `del captains["Discovery"]`**. This will remove the key-value pair for "Discovery" from the captains dictionary.