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Internship code: DS2312

FILE 1 Assignment: MCQs

1. b) 15
   - func(30, 75) will call itself as 30 % 75 is not 0.
   - func(75, 30) will call itself as 75 % 30 is not 0.
   - func(30, 15) will call itself as 30 % 15 is not 0.
   - Finally, func(15, 0) will return 15 as 15 % 0 == 0.

2. b) Filter
   - sorted_numbers creates a sorted list from the original tuple.
   - even is a lambda function that checks if a number is even.
   - filter(even, sorted_numbers) keeps only the even numbers from the sorted list, hence a Filter object.

3. a) Tuple
   - *args collects all non-keyword arguments passed to a function as a tuple.

4. a) 105
   - Set union removes duplicates, so adding all three sets won't result in 270 unique elements.

5. a) raise
   - raise explicitly throws an exception to be handled in the code.

6. c) datetime
   - time deals with specific points in time, while datetime handles both date and time together.

7. d) 233
   - 4**3 is 64.
   - 7 + 5 is 12.
   - (7 + 5)**(1 + 1) raises 12 to the power of 2, resulting in 144.
   - Adding 64 and 144 gives 208.

8. b) strftime
   - strftime formats a datetime object into a readable string.

9. b) immutable
   - Tuples cannot be changed after creation, making them immutable.

10. A. range()
    - range() generates a sequence of numbers for iteration.

11. C. Lambda function

- Lambda functions are unnamed functions defined with the lambda keyword.

12. C. Both A and B
- Pickle serializes and de-serializes Python object structures.

13. B. dump() method
- dump() writes a Python object to a binary file.

14. A. load()
- load() reads a Python object from a binary file.

15. D. All of the mentioned above
- Text files can contain any combination of alphanumeric characters, special symbols, and numbers.

16. d) both a and b
- Both loops iterate over the captains dictionary, printing the ship and captain names.

17. d) captains = {}
- Empty dictionary creation is done with captains = {}. Options a and c have errors.

18. b) captains["Enterprise"] = "Picard"
- Adding key-value pairs is done with individual assignments like captains["key"] = "value".

19. b) for ship, captain in captains.items(): print(f"The {ship} is captained by {captain}.")
- This loop iterates over the dictionary items and uses formatted string f-strings to print the desired output.

20. c) del captains["Discovery"]
- del captains["key"] removes the specified key from the dictionary.