Assignment 7

NeuraFinity

19-12-2024

Due Date: 20-12-2024

Python Programming Assignment

List Practice Questions

1. **Adding and Removing Items**
   - Create a list called `tasks` with three initial tasks: `"study"`, `"exercise"`, and `"read"`.
   - Add a new task `"sleep"` to the list.
   - Remove the task `"exercise"` from the list.
   - Print the updated list.

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2. **Accessing List Elements**
   - Given the list:
     `tasks = ["study", "exercise", "read", "sleep"]`
     - Access and print:
       - The first item in the list.
       - The last item in the list.
     - Replace the second item `"exercise"` with `"play games"` and print the updated list.

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3. **Concatenating Two Lists**
   - Given two lists:
     `morning_tasks = ["wake up", "brush teeth", "eat breakfast"]`
     `evening_tasks = ["dinner", "relax", "sleep"]`
     - Concatenate the two lists into a single list called `daily_tasks`.
     - Print the `daily_tasks` list.

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4. **Extending a List**
   - Start with the list:
     `tasks = ["study", "exercise"]`
     - Extend the list by adding the elements of the list:
       `more_tasks = ["read", "write notes"]`
     - Print the updated `tasks` list.

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5. **Using Nested Lists**
   - Create a nested list called `daily_schedule` with the following format:
     ```
     daily_schedule = [
         ["morning", ["wake up", "exercise"]],
         ["afternoon", ["study", "lunch"]],
         ["evening", ["relax", "dinner"]]
     ]
     ```
     - Access and print the `"exercise"` task.
     - Add a new task `"read"` to the `"evening"` list and print the updated nested list.

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6. **Updating Items in a List**
   - Given the list:
     `tasks = ["study", "read", "exercise", "relax"]`
     - Replace `"exercise"` with `"yoga"`.
     - Change the last item `"relax"` to `"sleep"`.
     - Print the updated list.

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7. **Slicing Lists**
   - Given the list:
     `tasks = ["study", "read", "exercise", "relax", "sleep"]`
     - Extract and print the first three tasks.
     - Extract and print the last two tasks.

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8. **Creating an Empty List**
   - Create an empty list called `to_do`.
   - Add three tasks to the list one by one using the `append()` method.
   - Print the final list.

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9. **Updating Items in a List**
   - Given the list:
     `fruits = ["apple", "banana", "cherry", "date"]`
     Write code to:
     - Replace `"banana"` with `"blueberry"`.
     - Change the last item `"date"` to `"dragonfruit"`.

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10. **Unpacking a List**

- Given the list:
  `colors = ["red", "blue", "green"]`
  - Unpack the list into three separate variables: `color1`, `color2`, and `color3`.
  - Print each variable.

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11. **Nested Lists**

- Given the nested list:
  `matrix = [[1, 2, 3], [4, 5, 6], [7, 8, 9]]`
  - Access and print the element `5` from the list.
  - Update the value `9` to `99`.

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12. **List Concatenation**

- Given two lists:
  `list1 = [1, 2, 3]`
  `list2 = [4, 5, 6]`
  - Concatenate the two lists into a single list called `combined`.
  - Print the resulting list.

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13. **Extend Method**

- Given the list:
  `animals = ["cat", "dog"]`
  - Extend the list by adding the elements of the list:
    `new_animals = ["rabbit", "hamster"]`
  - Print the updated `animals` list.

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14. **Slicing and Replacing in a List**

- Given the list:
  `numbers = [10, 20, 30, 40, 50]`
  - Replace the middle three elements `[20, 30, 40]` with `[25, 35, 45]`.
  - Print the updated list.
