Python Coding Question

Basic Level Questions

List Creation:

1. Create an empty list.
2. Create a list of numbers from 1 to 5.
3. Create a list containing five different fruits.
4. Create a list that contains the strings `"Red"`, `"Green"`, and `"Blue"`.
5. Create a list of three boolean values.
6. Create a list with five different colors.
7. Create a list with numbers from 10 to 50 in steps of 10.
8. Create a list that contains the name of five countries.
9. Create a list with five repeated elements (e.g., 5 times `"Hello"`).
10. Create a list of mixed data types (e.g., `["Python", 3.14, True]`).

Accessing Elements/Indexing:

1. Print the first element from the list `[1, 2, 3, 4, 5]`.
2. Print the last element from the list `["Apple", "Banana", "Cherry"]`.
3. Access the third element in the list `["Python", "C++", "Java", "JavaScript"]`.
4. Print the element at index 2 from the list `[10, 20, 30, 40, 50]`.
5. Print the element at index 0 from a list of your choice.
6. Access the second element from a list of three numbers.
7. Access the first and last element from the list `["Sun", "Moon", "Stars"]`.
8. Print the first two elements of a list.

9. Use negative indexing to print the second last element from the list `[1, 2, 3, 4, 5]`.
10. Access the fourth element in the list `["Monday", "Tuesday", "Wednesday", "Thursday", "Friday"]`.

Slicing:

1. Slice and print the first 3 elements from a list of 5 numbers.
2. Create a list of 6 elements and slice out the last 2 elements.
3. Slice the first 4 elements from the list `["Sun", "Moon", "Stars", "Cloud", "Rain"]`.
4. Create a list of 10 numbers and slice out the first 5 numbers.
5. Slice and print the middle three elements of a 5-element list.
6. Create a list of 8 numbers and slice every second number.
7. Slice out the last 4 elements from the list `[10, 20, 30, 40, 50, 60]`.
8. Slice and print elements between index 2 and 5 in a list of 8 elements.
9. Print a slice of the first 3 elements in a list of your choice.
10. Create a list of 6 strings and print a slice from index 1 to 4.

Deleting Elements:

1. Create a list of five fruits and delete the second fruit.
2. Create a list `[10, 20, 30, 40, 50]` and delete the element at index 3.
3. Create a list and remove its first element.
4. Create a list of 6 colors and delete the last element.
5. Delete the element `"Blue"` from the list `["Red", "Green", "Blue", "Yellow"]`.
6. Remove the number 3 from the list `[1, 2, 3, 4, 5]`.
7. Delete the last element from the list `[100, 200, 300, 400, 500]`.
8. Remove all elements from a list using `clear()`.
9. Delete an element using `pop()` from a list of five numbers.

10. Create a list of animals and delete the animal at index 2.

Intermediate Level Questions

List Creation:

1. Create a list of even numbers from 2 to 20.
2. Create a list with the squares of numbers from 1 to 5.
3. Create a list using a loop that contains multiples of 5 from 5 to 50.
4. Create a list of characters from a string (e.g., `["P", "y", "t", "h", "o", "n"]`).
5. Create a list of prime numbers between 1 and 20.
6. Create a list of random numbers using a `for` loop.
7. Create a list of numbers from 10 to 100, but only include numbers divisible by 10.
8. Create a list with a repeated number using list multiplication (e.g., `[7] * 5`).
9. Create a list using a list comprehension that contains the first 10 multiples of 3.
10. Create a list that combines two separate lists into one (e.g., `list1 + list2`).

Accessing Elements/Indexing:

1. Access every second element from a list of 10 numbers.
2. Print the first three characters from a list created from a string (e.g., `"Hello"`).
3. Access the third element from the list `[True, False, True, False]`.
4. Access the element at index 5 from the list `[1, 2, 3, 4, 5, 6, 7]`.
5. Print the element at index -3 from a list.
6. Use a loop to print every element in a list.
7. Print the last 3 elements from a list using negative indexing.
8. Access the middle element in the list `[1, 2, 3, 4, 5]`.
9. Print all elements except the last two from the list `[100, 200, 300, 400, 500]`.
10. Use a for loop to print the index and value of each element in a list.

Slicing:

1. Slice and print every third element in a list of 10 numbers.
2. Create a list of 8 elements and slice it in reverse order.
3. Slice and print the last three elements from a list of 7 numbers.
4. Create a list of 12 numbers and print a slice from index 3 to index 8.
5. Slice and print the first half of a list with 8 elements.
6. Create a list of 9 numbers and print a slice that skips every second element.
7. Slice and print the elements between index 1 and 5 from the list `[1, 2, 3, 4, 5, 6]`.
8. Create a list of the first 10 letters of the alphabet and slice every other letter.
9. Print a reversed slice of the first 5 elements in a list of 10 numbers.
10. Create a list of 7 colors and slice the middle three colors.

Deleting Elements:

1. Delete the element at index 2 from the list `[10, 20, 30, 40, 50]`.
2. Create a list and delete all elements that are greater than 50.
3. Use `pop()` to remove and print the last element from the list `[5, 10, 15, 20]`.
4. Delete an element using `remove()` from the list `[1, 2, 3, 4, 5]`.
5. Use `del` to remove the element at index 3 from a list of 6 numbers.
6. Create a list and delete every second element using a loop.
7. Remove the element `"Python"` from a list of strings.
8. Delete the entire list using the `del` keyword.
9. Use `pop()` to remove the first element of a list and print the modified list.
10. Create a list and delete elements based on their value using a list comprehension.
