List Manipulation
Graded Quiz • 30 min

Due Jul 13, 12:29 PM IST

✓ **Congratulations! You passed!**

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List Manipulation

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1. Given the list `my_list = [1, 3, 5, 7, 9]`, which of the following slices returns the list `[3, 5, 7, 9]`?

1 / 1 point

☑ `my_list[ 1 : ]`

✓ **Correct**
This slice returns the list `[3, 5, 7, 9]`.

□ `my_list[ 1 : -1]`

□ `my_list[ 1 : 4]`

□ `my_list[ 2 : 4]`

2. While of the following expressions returns a tuple of length one?

1 / 1 point

□ `[1]`

☑ `(1,)`

✓ **Correct**
This expression returns the tuple `(1, )`.

☑ `tuple([1])`

✓ **Correct**
This expression returns the tuple `(1, )`.

□ `(1)`

3. Why does following code snippet raise an error in Python?

0 / 1 point

```python
instructors = ("Scott", "Joe", "John", "Stephen")
instructors[2 : 4] = []
print(instructors)
```

○ Slices cannot be used with tuples.

○ John and Stephen are irreplaceable.

○ Tuples are immutable.

● The tuple doesn't contain an element with index 4.

! **Incorrect**
This slice is valid. Try changing the tuple in the code snippet to a list.

4. Given a non-empty list `my_list`, which item in the list does the operation `my_list.pop()` remove?

1 / 1 point

○ The item `my_list[0]`

○ The item `my_list[len(my_list) ]`

● The item `my_list[-1]`

○ The item `my_list[1]`

✓ **Correct**
The method `pop()` removes the last item in the list.

5. What output does the following code snippet print to the console?

1 / 1 point

```python
my_list = [1, 3, 5, 7, 9]
my_list.reverse()
print(my_list.reverse())
```

Note that this question is easily answered by running this snippet in Python. Instead, **carefully** evaluate this code snippet mentally when you attempt this problem.

● `None`

○ `[1,  3, 5, 7, 9]`

○ Executing this code snippet raises an error.

○ `[9, 7, 5, 3, 1]`

✓ **Correct**

Since `reverse()` is a method, it mutates `my_list` and returns `None`.

6. Given a list `fib = [0, 1]`, write a loop that appends the sum of the last two items in `fib` to the end of `fib`. What is the value of the last item in `fib` after twenty iterations of this loop? Enter the answer below as an integer.

1 / 1 point

As a check, the value of the last item in `fib` after ten iterations is 89.

10946

✓ **Correct**

Correct. The values in this list are the Fibonacci numbers.

7. One of the first examples of an algorithm was the Sieve of Eratosthenes. This algorithm computes all prime numbers up to a specified bound. The provided code below implements all but the innermost loop for this algorithm in Python. Review the linked Wikipedia page and complete this code.

0 / 1 point

```python
"""
Implement the Sieve of Eratosthenes
https://en.wikipedia.org/wiki/Sieve_of_Eratosthenes
"""

def compute_primes(bound):
    """
    Return a list of the prime numbers in range(2, bound)
    """

    answer = list(range(2, bound))
    for divisor in range(2, bound):
        # Remove appropriate multiples of divisor from answer
        pass
    return answer

print(len(compute_primes(200)))
print(len(compute_primes(2000)))
```

Running your completed code should print two numbers in the console. The first number should be 46. Enter the second number printed in the console as the answer below.

No answer

! **Incorrect**

The answer you gave is not a number.