Use the following line of code to answer questions 1-6.

```python
lst1 = [1, 3, 5, 7, 9, 11]
```

1. What is the `len(lst1)`?
   a. 6
   b. 7
   c. 8
   d. 5

2. What is the `sum(lst1)`?
   a. 6
   b. 12
   c. 36
   d. 11

3. What is the `max(lst1)`?
   a. 11
   b. 1
   c. 5
   d. 9
   e. 36

4. What is the index of the maximum value in `lst1`?
   a. 0
   b. 4
   c. 5
   d. 6

5. What is the value of `lst1` after the following line of code is run?
   ```python
   lst1.remove(3)
   ```
   a. [1, 3, 5, 7, 9, 11]
   b. [1, 5, 7, 9, 11]
   c. [1, 3, 5, 9, 11]
   d. [1, 3, 5]

6. What is the value of `lst1` after the following line of code is run (use the original `lst1`)?
   ```python
   lst1.insert(2, 4)
   ```
   a. [1, 3, 5, 7, 2, 9, 11]
   b. [1, 3, 2, 5, 7, 9, 11]
   c. [1, 3, 4, 5, 7, 9, 11]
   d. [1, 3, 5, 7, 4, 9, 11]
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FINAL EXAM PRACTICE PROBLEMS

7. What is displayed when the following program is run?
   ```python
   list = 6 * [0]
x = list[5]
print("Done")
   ```
   a. [0,0,0,0,0,0]
   b. 0
   c. “Done”
   d. An error occurs.

8. What would be displayed by the following code?
   ```python
   list1 = [1, 3]
   list2 = list1
   list1[0] = 4
   print(list2)
   ```
   a. [1, 3]
   b. [4, 3]
   c. [1, 4]
   d. [1, 3, 4]

9. What will be displayed by the following code?
   ```python
   myList = [1, 2, 3, 4, 5, 6]
   for i in range(0, len(myList)-1):
       myList[i] = myList[i+1]
   print(myList)
   ```
   a. [2, 3, 4, 5, 6, 1]
   b. [6, 1, 2, 3, 4, 5]
   c. [2, 3, 4, 5, 6, 6]
   d. [1, 1, 2, 3, 4, 5]

10. Which method would you use to remove an element from a specific index in a list?
    a. del statement
    b. remove method
    c. index method
    d. slice method

11. Assume `x = [[[1, 2], [3, 4, 5]], [5, 6, 5, 9]]`, what are len(x[0]), len(x[1]), and len(x[2])?
    a. 2, 3, and 3
    b. 2, 3, and 4
    c. 3, 3, and 3
    d. 1, 2, and 3
12. What will be displayed by the following code?

```python
matrix = [[1, 2, 3, 4],
          [4, 5, 6, 7],
          [8, 9, 10, 11],
          [12, 13, 14, 15]]

for i in range(0, 4):
    print(matrix[i][1], end = " ")
```

- a. 1 2 3 4
- b. 4 5 6 7
- c. 1 4 8 12
- d. 2 5 9 13
- e. 3 6 10 14

13. What would be displayed by the following code?

```python
ages = {'AJ': 1, 'Graham': 2, 'CeCe': 4}
value = ages.get('Brielle', 0)
print(value)
```

- a. False
- b. -1
- c. 0
- d. KeyError

14. What would be displayed by the following code?

```python
ages = {'AJ': 1, 'Graham': 2, 'CeCe': 4}
ages['Brielle'] = 3
print(len(ages))
```

- a. KeyError
- b. 2
- c. 3
- d. 4
15. What is the value of the variable string1 after the execution of the following code?

```python
string1 = 'Hello'
string1 += ' world'
```

16. What would be the value of the variable list1 after the execution of the following code?

```python
list1 = [2, 4, 6, 8]
list1[3] = 10
```

17. What will be displayed by the following program?

```python
values = [[3, 4, 5, 1], [33, 6, 1, 2]]

v = values[0][0]
r = 0
c = 0
for row in range(0, len(values)):
    for column in range(0, len(values[row])):
        if v < values[row][column]:
            v = values[row][column]
            r = row
            c = column

print(v, r, c)
```

18. What will be displayed by the following code?

```python
m = [[1, 2, 3], [4, 5, 6], [7, 8, 9]]
print(m[2][1])
```
19. Write a function called `getClickRowCol` that takes in a parameter called `pixels` that corresponds to the number of pixels per grid size there are for both the row and columns, and the function waits for a click and then returns the row and column of the click location. (For example, if pixels was equal to 100 and x = 270 and y = 112, then row = 1 and column = 2.)

20. Write a function called `remove_odds` that takes in a list of numbers (L) and returns the list with all the odd numbers removed. You may choose to modify L itself, or create a new list and return that.

   Example: `remove_odds([1, 2, 3, 4, 5, 6])` returns `[2, 4, 6]`
21. Write a function `paired_sums` that takes in a list and returns a list of the sums of consecutive pairs of values in the list.

   Example: `paired_sums([2, 3, 5, 1, 6])` returns `[5, 8, 6, 7]`

22. Write a function called `letter_count` that takes in a string and returns a dictionary with each letter in the string and the number of times that letter occurred in the string.

23. Write a function called **count_nums** that takes in a list of integers and returns a list containing the counts of each number in the list from 0 to 9. You can assume that all values in the list are between 0 and 9.

**Hint**: You should create a new list called `counts` that has all 0s and is of length 10. Then if you encounter a 5 in the list, `counts[5] += 1`.

Example: `count_nums([4, 3, 6, 2, 7, 9, 2, 9, 0, 0, 2, 6, 6])` returns `[2, 0, 3, 1, 1, 0, 3, 1, 0, 2]`

24. Write a function called **max_sum_column** that takes in a 2-D list and returns the index and sum of the column with the maximum sum.

Example: `max_sum_column([[5, 2, 8, 4], [-9, 0, 4, 1], [5, 6, 4, 8]])` returns 2, 16