

Topic: Lists
CS 150 Introduction To CS
Python - Worksheet 07
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Determine the output:

1. Assume the list as given. Determine the output displayed (10 pts)

```
months = ['Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun', 'Jul', 'Aug', 'Sep', 'Oct', 'Nov', 'Dec']
```

```
print(months.index('Sep'))  
print(months[:4])  
print(months[-2:])  
print(months[4:7])  
print(months[:][-4])
```

```
8  
['Jan', 'Feb', 'Mar', 'Apr']  
['Nov', 'Dec']  
['May', 'Jun', 'Jul']  
Sep
```

```
del months[-2]  
months.insert(-1, 'Apr')  
print(months[-3:])  
print(months[-4].split())  
print(months[2].split())
```

```
['Oct', 'Apr', 'Dec']  
['Sep']  
['Mar']
```

```
print((' ', ' ').join(months[1:4]))  
print((' - ').join(months[-3:]))
```

```
Feb, Mar, Apr  
Oct-Nov-Dec
```

2. Display the output in the box provided. (1 pt)

```
list1 = [17, 3, 12, 9, 10]
list1.sort()
print("Spread:", list1[-1] - list1[0])
```

Spread: 14

3. Display the output in the box provided. (2 pts)

```
list2 = ["sentence", "contains", "five", "words."]
list2.insert(0, "This")
print(" ".join(list2))
del list2[3]
list2.insert(3, "six")
list2.insert(4, "different")
print(" ".join(list2))
```

This sentence contains five words.

This sentence contains six different words.

4. Display the output in the box provided. (2 pts)

```
name = "Charles Babbage"
list3 = name.split()
print("{0:s}, {1:s}".format(list3[1], list3[0]))
```

Babbage, Charles

5. Display the output in the box provided. (2 pts.)

```
nations = 'France\nEngland\nSpain\n'
countries = nations.split()
print(countries)
```

['France', 'England', 'Spain']

6. Display the output in the box provided. (2 pts.)

```
phoneNumber = "9876543219"
list1 = list(phoneNumber)
list1.insert(3, '-')
list1.insert(7, '-')
phoneNumber = ''.join(list1)
print(phoneNumber)
```

987-654-3219

7. Display the output in the box provided. (1 pt)

```
word = 'diary'
list1 = list(word)
list1.insert(3, list1[1])
del list1[1]
word = ''.join(list1)
print(word)
```

dairy

8. Display the output in the box provided. (1 pt)

```
word = 'etch'
list1 = list(word)
list1[1] = 'a'
print("".join(list1))
```

each

9. Display the output in the box provided. (1 pt)

```
list1 = ['mur'] * 2
print("".join(list1))
```

murmur

10. (8 pts) Write a program in Wing that randomly picks 12 integers between 0-50 (inclusive) and stores these values in a list. The numbers will represent the rainfall for each of 12 months. The program should calculate and display the total rainfall for the year, the average monthly rainfall, and the highest and lowest amounts. If multiple months had the same high or the same low amounts, print how many months had those high or low amounts. For example, if the low amount was 10 inches and 3 months had that amount, the output would display:

3 month(s) had a low monthly rainfall of 10 inches.

Sample Run 1:

```
Monthly rainfall in inches
49 48 29 50 24 23 35 49 44 20 50 15

Total rainfall for the year: 436 inches
Average monthly rainfall: 36.33
1 month(s) had a low monthly rainfall of 15 inches
2 month(s) had a high monthly rainfall of 50 inches
```

Sample Run 2:

```
Monthly rainfall in inches
49 18 15 50 34 28 49 0 39 0 33 29

Total rainfall for the year: 344 inches
Average monthly rainfall: 28.67
2 month(s) had a low monthly rainfall of 0 inches
1 month(s) had a high monthly rainfall of 50 inches
```


