MergeSort PRQ Score: ______

1. What is **concatenation**?

Ⓐ An agricultural process

Ⓑ Growing cats

Ⓒ Finding square root of a number

Ⓓ Combining two lists into one

2. If **al** = **[1, 2, 3]** and **bl** = **[4, 5, 6]**, what is the code to modify **al** to contain **[1, 2, 3, 4, 5, 6]**?

Ⓐ al + bl

Ⓑ bl + al

Ⓒ al.extend(bl)

Ⓓ al.append(bl)

3. If **al** = **[4, 5, 6]** and **bl** = **[1, 2, 3]**, what is the code to modify **bl** to contain **[1, 2, 3, 4, 5, 6]**?

Ⓐ al + bl

Ⓑ bl + al

Ⓒ bl.extend(al)

Ⓓ al.append(bl)

4. If **al** = **[1, 2, 3]** and **bl** = **[4, 5, 6]**, what is the code to generate a ***new list*** that contains **[1, 2, 3, 4, 5, 6]**?

Ⓐ al + bl

Ⓑ bl + al

Ⓒ al.extend(bl)

Ⓓ al.append(bl)

5. If **al** = **[4, 5, 6]** and **bl** = **[1, 2, 3]**, what is the code to generate ***a new list*** that contains **[1, 2, 3, 4, 5, 6]**?

Ⓐ al + bl

Ⓑ bl + al

Ⓒ al.extend(bl)

Ⓓ al.append(bl)

6. If **al = [4, 5, 6]** and **bl = [1, 2, 3] and cl = [0],**
what is the code to *merge* al and bl (in that order) into cl?

Ⓐ cl = cl + al + bl

Ⓑ cl += al + bl

Ⓒ cl.extend(al)
cl.extend(bl)

7. If **al = [1, 2, 3]** and cl = [ ], to make
cl = [1, 2] and **al = [3]**, what is the right code?

Ⓐ cl = al.pop(0)
cl = al.pop()

Ⓑ cl = al.pop(0)
cl = al.pop(1)

Ⓒ cl += [al.pop(0)]
cl += [al.pop(0)]

Ⓓ cl += [al.pop(1)]
cl += [al.pop(2)]

8. The default parameter value for the list method **.pop()** is **-1**.

Ⓐ True

Ⓑ False

9. Write a program to demonstrate ternary operator in Python.
Use the ternary operator to assign the minimum of variable **a** and variable **b** to variable **c**.

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10. list **al = [1, 2]** and **bl = [3, 4].**
What is the code to print the first elements of both al and bl?

Ⓐ print(1, 3)

Ⓑ print(al[1], bl[1])

Ⓒ print(al, bl)

Ⓓ print(al[0], bl[0])

11. The integer 100 has to be added as the last element of list al. Which code will is correct?

Ⓐ al.**append**(100)

Ⓑ al.**insert**(-1, 100)

Ⓒ
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al_len = len(al)
al.insert(al_len-1, 100)
```

Ⓓ al.**extend**([100])

12. If al = [1, 3, 5] and bl = [2, 4, 6], what is the code to extract al and bl into cl so that cl = [1, 2, 3, 4, 5, 6]?

Ⓐ cl = cl + al + bl

Ⓑ
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while al and bl:
cl = al.pop(0)
cl = bl.pop(0)
```

Ⓒ
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#----- start --------
while len(al) != 0 and len(bl) != 0:
cl.insert(-1, al.pop(0))
cl.insert(-1, bl.pop(0))
#----- end --------
```

Ⓓ
```
#----- start --------
while al and bl:
cl.append(al.pop(0))
cl.append(bl.pop(0))
#----- end --------
```

13. Extract the minimum of the first elements that occur in the list al and bl and put it at the tail of the list cl

Ⓐ **cl** = (al if al[0] < bl[0] else bl).pop(0)

Ⓑ **cl** = (al if al[0] < bl[0] else bl).pop(1)

Ⓒ
```
# ------ start --------
if al[0] < bl[0]:
cl.append( al[0] )
al.pop(0)
else:
cl.append( bl[0] )
bl.pop(0)
# ------ end --------
```

Ⓓ
```
# ------ start --------
candidate = (al if al[0] < bl[0] else bl).pop(0)
c.append(candidate)
# ------ end --------
```

Ⓔ All of the above

14. Write code that creates a list **cl** by merging numbers in
sorted list **al** and sorted list **bl** in ascending order.
Print the newly formed list **cl**.

Clue: Combine answers from previous two questions.

15. Write a **merge** function which accepts two sorted lists A and B as parameters.
It should return a list that is a merge of the elements of A and B
so that they are in ascending order.