# CS118 Programming
# Demo Program for Exam 3

Write a Python function called `MaxList()`. This function takes a single argument – a list containing zero or more other lists of zero or more integers. The function should return a single list which contains the largest value from each of the embedded lists. The ***function*** **MUST NOT** receive any user input, and **MUST NOT** provide any user output.

Provide a demo program showing testing of the following arguments:

· An empty list
· A list containing one empty list
· A list containing one non-empty list
· A list of a randomly-generated number of randomly-generated lists (no more than 5 lists of up to 5 elements each)
    Be sure that the following are randomly generated:
        - Number of embedded lists (0 to 5)
        - Number of elements in each list (0 to 5)
        - Values of elements in each list (integers, 0 to 1000)

Be sure that each demonstration shows the argument(s) and the return value from the function.

Scoring:

| | |
|---|---|
| Function: | 50% |
| Empty list: | |
| creation | 5% |
| results | 5% |
| One embedded empty list: | |
| creation | 5% |
| results | 5% |
| One embedded non-empty list: | |
| creation | 5% |
| results | 5% |
| Random lists: | |
| creation | 10% |
| results | 10% |

Example output:

```
Empty list:
Argument:  []
Return value:  []

One embedded empty list:
Argument:  [[]]
Return value:  []

One embedded non-empty list:
Argument:  [[1, 5, 4, 3, 2]]
Return value:  [5]

Random list of lists:
Argument:  []
Return value:  []

>>> ================================ RESTART ================================
>>>
Empty list:
Argument:  []
Return value:  []

One embedded empty list:
Argument:  [[]]
Return value:  []

One embedded non-empty list:
Argument:  [[1, 5, 4, 3, 2]]
Return value:  [5]

Random list of lists:
Argument:  [[64, 140, 917, 413], [131, 165, 311, 142], []]
Return value:  [917, 311]
```