

Solutions to Assignment 1

This is a simple module composed of `main.py` as well as an `assets/` directory containing extra files necessary for the completion of this assignment. Run `main.py` via python3, it will then print out the results for the first exercise. It will then prompt the user to enter a string to determine if the char array 'abcd' is found within it.

Questions from Handout

1. An IDE stands for Integrated Development Environment. Used to develop software, an IDE also offers unique and custom features for the benefit of the user's workflow
2. Exceptions can be handled with `try/except` statements. Example shown below

```
try:
    "try some operation"
except:
    "do this if it throws an error"
```

3. Define a function with

```
def some_function(arg1, arg2,...argN):
    "Do something"
    return
```

4. `True`. Functions are defined with a set of inputs. Though, some of these inputs can be optional.
5. Two methods used on list objects are the `append()` method, for appending elements to a list. There is also a `reversed()` method, which returns essentially a reversed version of a list.
6. Implementing the state machine with pointers allows more states to be dynamically added or removed. While the if statements require hard coding states and conditions, not ideal for dynamic situations.

Exercise 1

1. Maximum Number: **99**
2. Minimum Number: **2**
3. Index of '38': **76**
4. Most Frequent Element: **76**
5. A sorted list: [2 2 3 4 5 6 6 6 7 8 10 10 10 10 11 12 13 16 16 17 17 18 19 20 20 23 26 27 27 27 29 29 32 32 33 33 33 34 34 34 35 36 38 39 41 42 44 46 46 47 48 49 49 50 52 54 55 55 56 59 63 63 64 65 67 67 68 68 69 69 71 72 73 73 73 73 73 74 75 75 75 76 79 79 80 81 81 82 83 83 85 86 86 87 88 89 89 94 95 99]
6. Even Numbers: [2 4 6 8 10 12 16 18 20 26 32 34 36 38 42 44 46 48 50 52 54 56 64 68 72 74 76 80 82 86 88 94]

Exercise 2

Run `main.py` to test this module.