TUGAS 1 STRUKTUR DATA

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1. GitHub link : https://github.com/matthewraymondh
2. Python stack code

```python
# Author: OMKAR PATHAK

class Stack(object):
    def __init__(self, limit = 10):
        self.stack = []
        self.limit = limit

        # for printing the stack contents
        def __str__(self):
            return ' '.join([str(i) for i in self.stack])

        # for pushing an element on to the stack
        def push(self, data):
            if len(self.stack) >= self.limit:
                print('Stack Overflow')
            else:
                self.stack.append(data)

        # for popping the uppermost element
        def pop(self):
            if len(self.stack) <= 0:
                return -1
            else:
                return self.stack.pop()

        # for peeking the top-most element of the stack
        def peek(self):
            if len(self.stack) <= 0:
                return -1
            else:
                return self.stack[len(self.stack) - 1]

        # to check if stack is empty
        def isEmpty(self):
            return self.stack == []

        # for checking the size of stack
```

```
40.          def size(self):
41.              return len(self.stack)
42.
43.      if __name__ == '__main__':
44.          myStack = Stack()
45.          for i in range(10):
46.              myStack.push(i)
47.          print(myStack)
48.          myStack.pop()              # popping the top element
49.          print(myStack)
50.          myStack.peek()             # printing the top element
51.          myStack.isEmpty()
52.          myStack.size()
53.
```

3. Output

```
ASUS@LAPTOP-90384UOD  ~  Documents  dev  Data-Structures-using-Python-master  master
> python -u "c:\Users\ASUS\Documents\dev\Data-Structures-using-Python-master\Stack\Stack.py"
0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8
```