

```

class ArrayStack:
    new *
    def __init__(self, max_size):
        self.max_size = max_size
        self.stack = [None] * max_size
        self.top = -1

1 usage new *
def push(self, value):
    if self.is_full():
        raise Exception("Stack is full")
    self.top += 1
    self.stack[self.top] = value

1 usage new *
def pop(self):
    if self.is_empty():
        raise Exception("Stack is empty")
    value = self.stack[self.top]
    self.stack[self.top] = None
    self.top -= 1
    return value

new *
def peek(self):
    if self.is_empty():
        raise Exception("Stack is empty")
    return self.stack[self.top]

4 usages new *
def is_empty(self):
    return self.top == -1

1 usage new *
def is_full(self):
    return self.top == self.max_size - 1

```

```
from ArrayStack import ArrayStack as Stack
```

```
1 usage new *
```

```
def Act3(symbols):
```

```
    matching_pairs = {'(': ')', '{': '}', '[': ']'}
```

```
    stack = []
```

```
    for symbol in symbols:
```

```
        if symbol in matching_pairs.values():
```

```
            stack.append(symbol)
```

```
        elif symbol in matching_pairs.keys():
```

```
            if stack == [] or stack.pop() != matching_pairs[symbol]:
```

```
                return False
```

```
    return stack == []
```

```
user_input = input("Enter symbols: ")
```

```
if Act3(user_input):
```

```
    print("Correct")
```

```
else:
```

```
    print("Incorrect")
```

```
1 usage new *
```

```
def reverse_file(filename):
```

```
    with open(filename, 'r') as file:
```

```
        content = file.read()
```

```
    reversed_content = content[::-1]
```

```
    with open(filename, 'w') as file:
```

```
        file.write(reversed_content)
```

```
    print('Reverse:')
```

```
    print(reversed_content)
```

```
reverse_file('myfile.txt')
```

```
ArrayStack.py  Main.py  myfile.txt x
a
b
c
d
e
f
```

Output:

```
Z:\DSALG01-IDB2\Activity3_Midterms\.venv\Scripts\python.exe Z:\DSALG01-IDB2\Activity3_Midterms\Main.py
Enter symbols:  ( ) ( ( ) ) { [ ( ) ] }
Correct
Reverse:
a
b
c
d
e
f
```

```
ArrayStack.py  Main.py  myfile.txt x
1      f
2      e
3      d
4      c
5      b
6      a
7
```