Extra Credit # 1: Parentheses Matching

You are given a string of parentheses ("(", ")"), braces("{", "}") and brackets("[", "]"). You need to check whether each "(", "{", or "[" is paired with a matching ")", "}", or "[".

For example, "( )(( )){([( )])}" and "()( )(( )){([( )])}" are matched correctly. While ")(( )){([( )])}", "({[ ])}" and "(" are not matched correctly.

Write code to test whether such a string is matched correctly. Complete the code for the method def match(exp).

```python
class ListStack:
    def __init__(self):
        self._L = []

    def push(self, item):
        self._L.append(item)

    def pop(self):
        return self._L.pop()

    def peek(self):
        return self._L[-1]

    def __len__(self):
        return len(self._L)

    def isempty(self):
        return len(self) == 0
```

```python
def match(exp):
    d = {'(':')', '{':'}', '[':']'}
    L = list(exp)
    stack = ListStack()
    for c in L:
```

 # complete your code here

```
    if stack.isempty():
        return True

exp = '( )(( )){([( )])}'
print(exp)
print(match(exp))

exp = '( )(( )){([( )])})'
print(exp)
print(match(exp))


exp = '( [)(( )){([( )])}})'
print(exp)
print(match(exp))

exp = ''
print(exp)
print(match(exp))
```

This extra credit assignment worth 0.5 point in your final grade.
Submit your code as usual to Mimir.