

ITC 542 Advanced Algorithms and Programming
Assignment 1 Parenthesis Checker
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Input	run()	run_bonus()
1 : 'print(x[6])'	Expression 1 is correct	Expression 1 is correct
2 : 'x = (((1+2)*(4-3)))'	Expression 2 is correct	Expression 2 is correct
3 : 'nested_dict = { 'dictA': {'key_1': 'value_1'}, 'dictB': {'key_2': 'value_2'}}'	Expression 3 is correct	Expression 3 is correct
4: 'print('{} . Name: {}, Price: {})'.format(i,str_name,a[0]))'	Expression 4 is correct	Expression 4 is correct
5 : 'print('Course: {}, Number of Students: {})'.format('ITC547', 15))'	Expression 5 is incorrect	Expression 5 is correct
6 : 'y =]]6'	Expression 6 is incorrect	Expression 6 is incorrect
7 : 'z = 14 * 8'	Expression 7 is correct	Expression 7 is correct
8 : 'p = (((4+2)'	Expression 6 is incorrect	Expression 6 is incorrect

Output run():

```
***Checking expression 1***
Opener dedected pushing : "("
Stack Contents: ['(']
Opener dedected pushing : "["
Stack Contents: ['(', '[']
Closer "]" dedected popping "["
Stack Contents: ['(']
Closer ")" dedected popping "("
Current stack is empty
Expression 1 is correct
```

```
***Checking expression 2***
Opener dedected pushing : "["
Stack Contents: ['[']
Opener dedected pushing : "("
Stack Contents: ['[', '(']
Opener dedected pushing : "("
Stack Contents: ['[', '(', '(']
Closer ")" dedected popping "("
Stack Contents: ['[', '(']
Opener dedected pushing : "("
Stack Contents: ['[', '(', '(']
Closer ")" dedected popping "("
Stack Contents: ['[', '(']
Closer ")" dedected popping "("
Stack Contents: ['[']
Closer "]" dedected popping "["
Current stack is empty
Expression 2 is correct
```

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***Checking expression 3***
Opener dedected pushing : "{"
Stack Contents: ['{']
Opener dedected pushing : "{"
Stack Contents: ['{', '{']
Closer "}" dedected popping "{"
Stack Contents: ['{']
Opener dedected pushing : "{"
Stack Contents: ['{', '{']
Closer "}" dedected popping "{"
```

Stack Contents: ['{']
Closer "}" dedected popping "{"
Current stack is empty
Expression 3 is correct

Checking expression 4
Opener dedected pushing : "("
Stack Contents: ['(']
Opener dedected pushing : "{"
Stack Contents: ['(', '{']
Closer "}" dedected popping "{"
Stack Contents: ['(']
Opener dedected pushing : "{"
Stack Contents: ['(', '{']
Closer "}" dedected popping "{"
Stack Contents: ['(']
Opener dedected pushing : "{"
Stack Contents: ['(', '{']
Closer "}" dedected popping "{"
Stack Contents: ['(']
Opener dedected pushing : "("
Stack Contents: ['(', '(']
Opener dedected pushing : "["
Stack Contents: ['(', '(', '[']
Closer "]" dedected popping "["
Stack Contents: ['(', '(']
Closer ")" dedected popping "("
Stack Contents: ['(']
Closer ")" dedected popping "("
Current stack is empty
Expression 4 is correct

Checking expression 5
Opener dedected pushing : "("
Stack Contents: ['(']
Opener dedected pushing : "{"
Stack Contents: ['(', '{']
Closer "}" dedected popping "{"
Stack Contents: ['(']
Opener dedected pushing : "{"
Stack Contents: ['(', '{']
Closer "}" dedected popping "{"
Stack Contents: ['(']
When theres no "opener" in the stack "closer" : "]" dedected
Expression is 5 incorrect

Checking expression 6
When theres no "opener" in the stack "closer" : "]" dedected
Expression is 6 incorrect

Checking expression 7
Expression 7 is correct

Checking expression 8
Opener dedected pushing : "("
Stack Contents: ['(', '(']
Opener dedected pushing : "("
Stack Contents: ['(', '(', '(']
Opener dedected pushing : "("
Stack Contents: ['(', '(', '(', '(']
Closer ")" dedected popping "("
Stack Contents: ['(', '(', '(']
Expression 8 is incorrect

Output run_bonus():

Checking expression 1
Opener dedected pushing : "("
Stack Contents: ['(']
Opener dedected pushing : "["
Stack Contents: ['(', '[']
Closer "]" dedected popping "["
Stack Contents: ['(']
Closer ")" dedected popping "("
Current stack is empty

Expression 1 is correct

Checking expression 2

Opener dedected pushing : "["
Stack Contents: [""]
Opener dedected pushing : "("
Stack Contents: ["(", "("]
Opener dedected pushing : "("
Stack Contents: ["(", "(", "("]
Closer ")" dedected popping "("
Stack Contents: ["(", "("]
Opener dedected pushing : "("
Stack Contents: ["(", "(", "("]
Closer ")" dedected popping "("
Stack Contents: ["(", "("]
Closer ")" dedected popping "("
Stack Contents: [""]
Closer "]" dedected popping "["
Current stack is empty
Expression 2 is correct

Checking expression 3

Opener dedected pushing : "{"
Stack Contents: [{""]
Opener dedected pushing : "{"
Stack Contents: [{"", "{"]
Closer "}" dedected popping "{"
Stack Contents: [{""]
Opener dedected pushing : "{"
Stack Contents: [{"", "{"]
Closer "}" dedected popping "{"
Stack Contents: [{""]
Closer "}" dedected popping "{"
Current stack is empty
Expression 3 is correct

Checking expression 4

Opener dedected pushing : "("
Stack Contents: ["("]
Opener dedected pushing : "("
Stack Contents: ["(", "("]
Opener dedected pushing : "["
Stack Contents: ["(", "(", "["]
Closer "]" dedected popping "["
Stack Contents: ["(", "("]
Closer ")" dedected popping "("
Stack Contents: ["("]
Closer ")" dedected popping "("
Current stack is empty
Expression 4 is correct

Checking expression 5

Opener dedected pushing : "("
Stack Contents: ["("]
Opener dedected pushing : "("
Stack Contents: ["(", "("]
Closer ")" dedected popping "("
Stack Contents: ["("]
Closer ")" dedected popping "("
Current stack is empty
Expression 5 is correct

Checking expression 6

When theres no "opener" in the stack "closer" : "]" dedected
Expression is 6 incorrect

Checking expression 7

Expression 7 is correct

Checking expression 8

Opener dedected pushing : "("
Stack Contents: ["("]
Opener dedected pushing : "("
Stack Contents: ["(", "("]
Opener dedected pushing : "("
Stack Contents: ["(", "(", "("]

Closer ")" dedected popping "("
Stack Contents: ['(', '']
Expression 8 is incorrect