

Here are solution of task no 02

2. Match Parentheses using Stack

```
import java.util.Stack;
```

```
public class MatchParentheses {  
    public static boolean isBalanced(String str) {  
        Stack<Character> stack = new Stack<>();  
  
        for (char ch : str.toCharArray()) {  
            if (ch == '(' || ch == '{' || ch == '[') {  
                stack.push(ch);  
            } else if (ch == ')' || ch == '}' || ch == ']') {  
                if (stack.isEmpty()) return false;  
                char top = stack.pop();  
                if ((ch == ')' && top != '(') ||  
                    (ch == '}' && top != '{') ||  
                    (ch == ']' && top != '[')) {  
                    return false;  
                }  
            }  
        }  
        return stack.isEmpty();  
    }  
  
    public static void main(String[] args) {  
        String input = "{[()]}"  
        System.out.println("Input: " + input);  
        System.out.println("Is balanced? " + isBalanced(input));  
    }  
}
```

Output:

```
Input: {[()]}  
Is balanced? true
```