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| **CSE 208:** Data Structure Lab (Sec-1)  Department of Computer Science and Engineering  University of Liberal Arts Bangladesh | | | |
| **Course Title:** Data Structure Lab | | **Course Code:** CSE 208 | |
| **Total Marks:** 20 | | **Time:** 50 minutes | |
| **Name:** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | **ID:** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 1. A bracket is considered to be any one of the following characters: (,), {,}, or [,].   Two brackets are considered to be a matched pair if an opening bracket (i.e., (, [, or {) occurs to the left of a closing bracket (i.e.,),], or}) of the exact same type. There are three types of matched pairs of brackets: [ ], { }, and ( ).  A matching pair of brackets is not balanced if the set of brackets it encloses are not matched. For example, {[(])} is not balanced because the contents in between { and } are not balanced. The pair of square brackets encloses a single, unbalanced opening bracket, (, and the pair of parentheses encloses a single, unbalanced closing square bracket, ].  By this logic, we say a sequence of brackets is balanced if the following conditions are met:  It contains no unmatched brackets.  The subset of brackets enclosed within the confines of a matched pair of brackets is also a matched pair of brackets.  Given n strings of brackets, determine whether each sequence of brackets is balanced.  If a string is balanced, return YES. Otherwise, return NO.  **Input format:**   * The first line contains a single integer , the number of strings. * Each of the next lines contain a single string , a sequence of brackets.   **Output format:**   * For each string, return YES or NO.   **Constraints:**   * where is the length of the sequence * All characters in the sequences are {,}, (,), [,].  |  |  | | --- | --- | | **SAMPLE INPUT** | **SAMPLE OUTPUT** | | 3  {[()]}  {[(])}  {{[[(())]]}} | YES  NO  YES | | 10 |
| 1. Interview | 10 |