**Bharatiya Vidya Bhavan’s**

**SARDAR PATEL INSTITUTE OF TECHNOLOGY**

(Autonomous Institute Affiliated to University of Mumbai)

Munshi Nagar, Andheri (W), Mumbai – 400 058.

Department of AI-ML

|  |  |
| --- | --- |
| **Experiment** | 0 |
| **Aim** | Implement the given problem statement |
| **Objective** | Given as input a sequence of opening and closing brackets, check whether it is balanced or not.  In particular, check whether the first bracket is an opening bracket and for every opening bracket,  there should be a matching closing bracket.  For example, ((()))  is balanced but )()(  is not. |
| **Name** | Alok Bhaurao Jadhao |
| **UCID** | 2023300079 |
| **Class** | B |
| **Batch** | A |
| **Date of Submission** | 9th August, 2024 |

|  |  |
| --- | --- |
| **Explanation of the technique used** |  |
| **Program(Code)** | #include <bits/stdc++.h>  using namespace std;  int main() {  string str;  cin >> str;    int n = str.length();  if(n%2 != 0) {  cout << "Unbalanced";  return 0;  }  int count = 0;  for(int i = 0; i < n; i++) {  if(str[i] =='(') {  count++;  }  if(str[i] == ')') {  count--;  }  if(count < 0) {  cout << "Unbalanced" << endl;  return 0;  }  }  if(count == 0) {  cout << "Balanced" << endl;  } else {  cout << "Unbalanced" << endl;  }  return 0;  } |
| **Output** |  |
|  |  |
| **Conclusion** | Conclusion should include your observation and analysis. |