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**Roll Number: 45**

**Experiment Number: 13**

**Title: Possible string permutations**

**Theory:**  The C++ program utilizes recursive backtracking to generate and print all possible permutations of a user-entered string.

**Code:**

**#include "iostream"**

**using namespace std;**

**void possibles(string &a, int s, int r) {**

**if (s == r)**

**cout << a << endl;**

**else {**

**for (int i = s; i <= r; i++) {**

**swap(a[s], a[i]);**

**possibles(a, s + 1, r);**

**swap(a[s], a[i]);**

**}**

**}**

**}**

**int main() {**

**string str;**

**cout << "Enter a string: ";**

**cin >> str;**

**int n = str.size();**

**cout << "All possible permutaions are shown below." << endl;**

**possibles(str, 0, n - 1);**

**return 0;**

**}**

**Output:(screenshot):**

