



**Course:** Data Structures  
**Program:** BS(CS)  
**Duration:** 20 minutes

**Semester:** Fall 2023  
**Total Marks:** 15  
**Exam:** Quiz 2A

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**Q#1:-** Reverse a Stack using Queue

(5)

```
void reverse(stack<int>& stk)
{
    queue<int> qu;

    while (!stk.empty()) {
        qu.enqueue(stk.top());
        stk.pop();
    }

    while (!qu.empty()) {
        stk.push(qu.front());
        qu.dequeue();
    }
}
```

**Q#2:-** Given a sequence of n strings, the task is to check if any two similar words come together and then destroy each other then print the number of words left in the sequence after this pairwise destruction. (10)

**Examples:**

Input : ab aa aa bcd ab

Output : 3

As aa, aa destroys each other so,  
ab bcd ab is the new sequence.

Input : tom jerry jerry tom

Output : 0

Complete the following function, implement using stack.

```
int removeConsecutiveSame(string arr[])
{
    stack<string> st;
}

int removeConsecutiveSame(vector <string> v)
{
    stack<string> st;

    // Start traversing the sequence
    for (int i=0; i<v.size(); i++)
    {
        // Push the current string if the stack
```

```
// is empty
if (st.empty())
    st.push(v[i]);
else
{
    string str = st.top();

    // compare the current string with stack top
    // if equal, pop the top
    if (str.compare(v[i]) == 0)
        st.pop();

    // Otherwise push the current string
    else
        st.push(v[i]);
}

// Return stack size
return st.size();
}
```