Assignment Solutions | Stacks - 1 | Week 16

1. You have two stack and 1,2,3,4,5 values and you have pushed all these values to S1 (in the order 1,2,3,4,5) and then you took 2 elements from top and inserted into S2 , then pop 1 element from S1 and then take top of S2 and insert into S1. What is the second top element in S1.
    1. [3]
    2. [2]
    3. [1]
    4. [5]

Solution:

```
Option 2 : [2]
```

2. Remove kth element from top in a given stack.

    Hint : Use another stack, just like insertion question.

Solution:

```
#include<bits/stdc++.h>
using namespace std;
void removeKthElement(int k , stack<int>&st){
    stack<int>st2;
    k--;
    while(k--){
        st2.push(st.top());
        st.pop();
    }
    st.pop();
    while(!st2.empty()){
        st.push(st2.top());
        st2.pop();
    }
}
int main(){
    stack<int>st;
    st.push(1);
    st.push(2);
    st.push(3);
    st.push(4);
    st.push(5);
    removeKthElement(3 , st);
```

3. What does this function do ?

```
void fun(int n){
  stack<int> s;
  while (n > 0){
    s.push(n%2);
    n = n/2;
  }
  while (!s.empty()){
    cout<<s.top();
    s.pop();
  }
}
```

1. Prints binary representation of n in reverse order
2. Prints binary representation of n
3. Print the value of Log n
4. Print the value of Log n in reverse order

Solution:

`option 2: Prints binary representation of n.`

4. Which of the following statement(s) about stack data structure is/are NOT correct?
    1. Stack data structure can be implemented using linked list
    2. New node can only be added at the top of the stack
    3. Stack is the FIFO data structure
    4. Adding an element to a filled stack leads to underflow condition.

Solution:

`option 1 and 2.`
