PW SKILLS

Stacks - 1

Assignment Solutions

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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.

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THANK YOU !