Experiment 2

Aim: write program to implement stack ADT using array

Practice Questions

Q1. What is LIFO?

→ LIFO stands for Last in first out. which means whichever element is inserted last, only that element will get deleted.

2. Explain push/pop operation of stack?

→

push() = This operation is used to insert a value at the top of the stack.

pop() = This operation used to delete (pop-out) a value from stack. In pop. only stack's top value get deleted because stack works on LIFO mechanism.

Q3. Explain stack overflow / underflow condition.

→

i. Before pushing a new value into stack, we must cheak wheather full or it has space. This condition is 'stack overflow' condition.
If top pointer is pointing to (size-1) index then stack is full means it is over flowed.
Example :-

```
void isFull()
{
    if (top == size-1)
        printf("stack overflow");
    else
        // perform push
        push();
}
```

ii. While deleting top value ~~&~~ of stack stack underflow condition is cheaked i.e. top == -1 means stack is empty, pop ~~ove~~ operation is invalid in this case.
Example.

```
void isEmpty()
{
    if (top==-1)
        printf("stack underflow");
    else
        pop();
}
```

4. What is peek operation.

→

Peek operation is used to know what is present on the stack top. It returns element present at top.

Example:-

```
int peek()
{
    if(top isEmpty())
        return 0;
    else
        return st[top];
}
```