

Code:

```
#include <stdio.h>
#include <string.h>

#define MAX 5

int stack[MAX], top = -1;

int push(int x) {
    if (top == MAX - 1)
        return 0; // overflow → invalid
    stack[++top] = x;
    return 1; // valid
}

int pop() {
    if (top == -1)
        return 0; // underflow → invalid
    top--;
    return 1; // valid
}

int main() {
    int n, i, op, val;
    int valid = 1;

    printf("Enter number of operations: ");
    scanf("%d", &n);

    printf("\nEnter operations:\n");
}
```

```
printf("1 x → push x\n");
printf("2 → pop\n\n");

for (i = 0; i < n; i++) {
    scanf("%d", &op);

    if (op == 1) {
        scanf("%d", &val);
        if (!push(val)) {
            valid = 0;
            break;
        }
    } else if (op == 2) {
        if (!pop()) {
            valid = 0;
            break;
        }
    } else {
        valid = 0;
        break;
    }
}

if (valid)
    printf("\nVALID STACK SEQUENCE\n");
else
    printf("\nINVALID STACK SEQUENCE\n");

return 0;
}
```

OUTPUT:

```
Enter number of operations: 6
```

```
Enter operations:
```

```
1 x → push x
```

```
2 → pop
```

```
1
```

```
2
```

```
3
```

```
INVALID STACK SEQUENCE
```