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#include <stdio.h>
#include <stdlib.h>
#define size 5

void push(int stack[], int *top, int element) {
    if (*top == size - 1) {
        printf("Stack overflow\n");
        return;
    }
    (*top)++;
    stack[*top] = element;
    printf("Element %d is pushed\n", element);
}

void pop(int stack[], int *top) {
    if (*top == -1) {
        printf("Stack underflow\n");
        return;
    }
    printf("Popped from stack: %d\n", stack[*top]);
    (*top)--;
}

void display(int stack[], int top) {
    if (top == -1) {
        printf("Stack is empty\n");
        return;
    }
    for (int i = top; i >= 0; i--) {
        printf("%d ", stack[i]);
    }
    printf("\n");
}

int main() {
    int stack[size];
    int top = -1;
    int choice, element;

    while (1) {
        printf("1. Push\n2. Pop\n3. Display\n4. Exit\n");
        scanf("%d", &choice);
        switch (choice) {

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void display(int stack[], int top) {
    if (top == -1) {
        printf("Stack is empty\n");
        return;
    }
    for (int i = top; i >= 0; i--) {
        printf("%d ", stack[i]);
    }
    printf("\n");
}

int main() {
    int stack[size];
    int top = -1;
    int choice, element;

    while (1) {
        printf("1. Push\n2. Pop\n3. Display\n4. Exit\n");
        scanf("%d", &choice);
        switch (choice) {
            case 1:
                printf("Enter your element: ");
                scanf("%d", &element);
                push(stack, &top, element);
                break;
            case 2:
                pop(stack, &top);
                break;
            case 3:
                display(stack, top);
                break;
            case 4:
                exit(0);
            default:
                printf("Invalid input\n");
        }
    }
}

```

```
1. Push
2. Pop
3. Display
4. Exit
1
Enter your element: 1
Element 1 is pushed
1. Push
2. Pop
3. Display
4. Exit
1
Enter your element: 2
Element 2 is pushed
1. Push
2. Pop
3. Display
4. Exit
1
Enter your element: 3
Element 3 is pushed
1. Push
2. Pop
3. Display
4. Exit
1
Enter your element: 4
Element 4 is pushed
1. Push
2. Pop
3. Display
4. Exit
1
Enter your element: 5
Element 5 is pushed
1. Push
2. Pop
3. Display
4. Exit
1
Enter your element: 6
Stack overflow
1. Push
2. Pop
3. Display
4. Exit
3
5 4 3 2 1
1. Push
2. Pop
3. Display
4. Exit
2
Popped from stack: 5
1. Push
2. Pop
3. Display
4. Exit
2
Popped from stack: 4
1. Push
2. Pop
3. Display
4. Exit
2
Popped from stack: 3
```

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4. Exit
1
Enter your element: 4
Element 4 is pushed
1. Push
2. Pop
3. Display
4. Exit
1
Enter your element: 5
Element 5 is pushed
1. Push
2. Pop
3. Display
4. Exit
1
Enter your element: 6
Stack overflow
1. Push
2. Pop
3. Display
4. Exit
3
5 4 3 2 1
1. Push
2. Pop
3. Display
4. Exit
2
Popped from stack: 5
1. Push
2. Pop
3. Display
4. Exit
2
Popped from stack: 4
1. Push
2. Pop
3. Display
4. Exit
2
Popped from stack: 3
1. Push
2. Pop
3. Display
4. Exit
2
Popped from stack: 2
1. Push
2. Pop
3. Display
4. Exit
2
Popped from stack: 1
1. Push
2. Pop
3. Display
4. Exit
2
Stack underflow
1. Push
2. Pop
3. Display
4. Exit
3
```