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Stack program in c: C program to implement stack using array.

C programming code

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

#define MAX_SIZE 5

int stack[MAX_SIZE];
void push();
int pop();
void traverse();
int is_empty();
int top_element();
int top = -1;

main()
{
    int element, choice;

    while(1)
    {
        printf("Stack Operations.\n");
        printf("1. Insert into stack (Push operation).\n");
        printf("2. Delete from stack (Pop operation).\n");
        printf("3. Print top element of stack.\n");
        printf("4. Check if stack is empty.\n");
        printf("5. Traverse stack.\n");
        printf("6. Exit.\n");
        printf("Enter your choice.\n");
        scanf("%d",&choice);

        switch ( choice )
        {
            case 1:
                if ( top == MAX_SIZE - 1 )
                    printf("Error: Overflow\n\n");
                else
                {
                    printf("Enter the value to insert.\n");
                    scanf("%d",&element);
                    push(element);
                }
                break;
        }
    }
}
```

```

        case 2:
            if ( top == -1 )
                printf("Error: Underflow.\n\n");
            else
            {
                element = pop();
                printf("Element removed from stack is %d.\n", element);
            }
            break;

        case 3:
            if(!is_empty())
            {
                element = top_element();
                printf("Element at the top of stack is %d\n\n", element);
            }
            else
                printf("Stack is empty.\n\n");
            break;

        case 4:
            if(is_empty())
                printf("Stack is empty.\n\n");
            else
                printf("Stack is not empty.\n\n");
            break;

        case 5:
            traverse();
            break;

        case 6:
            exit(0);
    }
}

void push(int value)
{
    top++;
    stack[top] = value;
}

int pop()
{
    int element;

    if ( top == -1 )
        return top;

    element = stack[top];
    top--;

    return element;
}

void traverse()
{
    int d;

    if ( top == - 1 )
    {
        printf("Stack is empty.\n\n");
        return;
    }

    printf("There are %d elements in stack.\n", top+1);

    for ( d = top ; d >= 0 ; d-- )
        printf("%d\n", stack[d]);
    printf("\n");
}

int is_empty()
{
    if ( top == - 1 )
        return 1;
    else
        return 0;
}

int top_element()
{

```

```
return stack[top];  
}
```

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CV-Suite, for C; Suite++ and LibSuite++, for
C++



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