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Stack Implementation

Code Id	35
Date Updated	3/7/2010
Title	Stack implementation
Description	

This is a program to implement stack using array.

Codes Snippet

```
#include
#define MAX 50

struct stack
{
    int top;
    int stack_arr[MAX];
};

pop(struct stack *);
push(struct stack *, int);
overflow(struct stack *);
underflow(struct stack *);
void display(struct stack *);

main()
{
    int choice,n;
    struct stack s;
    s=(struct stack *)malloc(sizeof(struct stack));
    s->top=-1;
    while(1)
    {
        printf("1.Pushn");
        printf("2.Popn");
        printf("3.Displayn");
        printf("4.Quitn");
        printf("Enter your choice : ");
        scanf("%d",&choice);
        switch(choice)
        {
            case 1 :
                if(!overflow(s))
                {
                    printf("\nEnter item to be inserted");
                    scanf("%d",&n);
                    push(s,n);
                }
                else
                {
                    printf("\n Can't push  stack overflow");
                    exit(1);
                }
                break;
            case 2:
                if(!underflow(s))
                {
                    pop(s);
                    break;
                }
                else
                {
                    printf("\n Can't pop  stack underflow");
                    exit(1);
                }
                break;
            case 3:
                if(!underflow(s))
                {
                    display(s);
                    break;
                }
        }
    }
}
```

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```
/*End of main()*/
overflow(struct stack *s)
{
    if(s->top == (MAX-1))
        return 1;
    else
        return 0;
}
underflow(struct stack *s)
{
    if(s->top == -1)
        return 1;
    else
        return 0;
}
push(struct stack *s, int pushed_item)
{
    int pushed_item;
    s->top++;
    s->stack_arr[s->top] = pushed_item;
}/*End of push()*/
pop()
{
    return s->stack_arr[s->top];
    s->top--;
}/*End of pop()*/
void display()
{
    printf("%d", s->stack_arr[s->top]);
}/*End of display()*/
```