Expt. No. 8 Date

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1BM19CS002

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```
#include<stdio.h>
#include<stdlib.h>
#include<malloc.h>
struct stack{ int data;
              struct node *next;};
struct stack *top=NULL;
struct stak *push (struct stack*, int);
struct stack* display (struct stack*,);
struct stack * pop(struct stack*);
int peek (struct stack*);
int main(){
   int val, option;
  do{ printf("\n MENU");
      printf("\n 1. Push \n2. pop3. peek \n4. display
        \n5. exit");
      printf("\n Enter your option");
      scanf("%d",&option);
      switch(option){

case 1: printf("Enter value");
        scanf("%d",&val);
        top = push(top, val);
        break;
case 2: top = pop(top);
        break;
case 3: val = peek(top);
        if(val != -1)
        printf("The value of top element:%d",
                                    val);
```

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```
else
    printf ("Stack is empty");
    break;
case 4:
        top = display(top);
        break; } }
while (option != 5);
    return 0; }

struct stack *push(struct stack *top, int val){
    struct stack *p;

p = (struct stack *)malloc (sizeof(structStack
    p -> data = val;
    if (top == 0){
            p -> next = 0;
            top = p; }
else { p -> next = top;
            top = p; }
        return top; }

Struct stack * display ( struct stack *top){
        struct stack *p;
                p = top;
        if (top == NULL)
            printf ("Stack is empty");
else { while (p != NULL)
    { printf ("%d ", p -> data);
p = p -> next; }
            } }
```

Teacher's Signature

Date

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```
struct stack * pop(struct stack *top){

    struct stack *p;
    p=top;
    if(top==0)
        printf("Stack Underflow");
    else{
            top=top->next;
            printf("The value ddeted%d",p->dat
            free(p);
    } return top; }

int peek(Struct stack *top){

    if(top==NULL)
    return -1;
    else
      return top->data;
    }
```