```c
#include<stdio.h>
#include<stdlib.h>
//function prototypes
void push(int *arr,int *max,int *top,int n);
int pop(int *arr,int *max,int *top);
void sort(int *arr,int *max,int *ptr1,int *ptr2);
void clear(int *ptr1);
//main function
int main(){
    int Max;
    int top=-1;
    int temptop=-1;
    int *ptr1=&top;
    int *ptr2=&temptop;
    printf("enter the max entries to be sorted: ");
    scanf("%d",&Max);
    int stack[Max];
    int *max=&Max;
    int choice;
    do{
        printf("choose any from options below:\n 1.push\n 2.pop\n 3.sort\n
4.clear\n 5.exit\n    choice: ");
        scanf("%d",&choice);
        switch(choice){
            case 1:
            int n;
            printf("enter the element to be pushed: ");
            scanf("%d",&n);
            push(stack,max,ptr1,n);
            break;
            case 2:
            pop(stack,max,ptr1);
            break;
            case 3:
            sort(stack,max,ptr1,ptr2);
            break;
            case 4:
            clear(ptr1);
            break;
            case 5:
            exit(0);
            default:
            printf("enter any one of the three choice\n");
            break;
        }
    }while(choice!=5);
    return 0;
}
//push function
void push(int *arr,int *max,int *top,int n){
    if(*top<*max-1){
        arr[++*top]=n;
    }else{
        printf("stack overflow");
    }
}
//pop function
int pop(int *arr,int *max,int *top){
    if(*top>-1){
        return arr[*top--];
    }else{
        printf("stack underflow");
    }
}
```

```c
//sort function
void sort(int *arr,int *max,int *ptr1,int *ptr2){
      int temp[*max];
      int var;
      if(*ptr2==-1){
            temp[++*ptr2]=pop(arr,max,ptr1);
      }
      while(*ptr1>-1){
            var=pop(arr,max,ptr1);
            if(var>=temp[*ptr2]){
                  push(temp,max,ptr2,var);
            }else{
                  while(var<temp[*ptr2] && *ptr2!=-1){
                        push(arr,max,ptr1,pop(temp,max,ptr2));
                  }
                  push(temp,max,ptr2,var);
            }

      }
      printf("the sorted stack is:");
      for(int i=0;i<=*ptr1;i++){
            printf("%d",temp[i]);
      }
}
//clear function
void clear(int *ptr1){
      *ptr1=-1;
}
```