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/*Aim:Implement stack ADT using array
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#include<stdio.h>
#include<stdlib.h>
#define MAX 10
int top= -1;
int stack[MAX];
void push(int item);
int pop();
int peek();
int empty();
int full();
int size();
void display();
void main(){
   int x;
   int p;
   int choice;
   int item;
   while(1){
      printf("enter your choice as per the followings\n");
      printf(" 1.push\n 2.pop\n 3.peek\n 4.display\n 5.size\n 6.exit\n");
       scanf("%d",&choice);
       switch(choice){
         case 1://push//
         printf("enter the item to be pushed:\n");
                  scanf("%d",&item);
                  push(item);
                  break;
         case 2: //pop//
                item=pop();
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                printf("item popped is:%d\n",item);
                                break;
        case 3:

                x = peek();
                printf("the item present at top is:%d\n",x);
               break;

        case 4: printf("the items present are:\n");
                display();
                  break;
        case 5:
        size();
        printf("\n");
        break;
        case 6:
        exit(0);
        break;
        default:printf("invalid choice\n");
        break;
       }
   }
}
void push(int item){
      if( full() ){
            printf("\nStack Overflow\n");
            return;
      }
      top = top+1;
      stack[top] = item;
}/*End of push()*/
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int pop(){
	int item;
	if( empty() ){
		printf("\nStack Underflow\n");
		exit(1);
	}
	item = stack[top];
	top = top-1;
	return item;
}/*End of pop()*/
int peek(){
	if( empty() ){
		printf("\nStack Underflow\n");
		exit(1);
	}
	return stack[top];
}/*End of peek()*/
int empty(){
	if( top == -1 )
		return 1;
	else
		return 0;
}/*End of empty*/
int full(){
	if( top == MAX-1 )
		return 1;
	else
		return 0;
}/*End of full*/
void display(){
	int i;
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        if( empty() )
        {
                printf("\nStack is empty\n");
                return;
        }
    printf("\nStack elements :\n\n");
        for(i=top;i>=0;i--)
                printf(" %d\n", stack[i] );
        printf("\n");
}/*End of display()*/
int size(){
        if(empty())
        {
                printf("stack underflow\n");
                exit(1);
        }
        printf("the size of the stack is:%d",top+1);
}/*End of Size()*/
```