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Program:

#include <stdio.h>  
#include <stdlib.h>  
int size;  
int top;  
int \*arr;  
  
int isFull(){  
 if(top==size-1){  
 return 1;  
 }  
 return 0;  
}  
  
int isEmpty(){  
 if(top==-1){  
 return 1;  
 }  
 return 0;  
}  
  
void push(int item){  
 if(isFull()){  
 printf("\nStack Overflow\n\n");  
 }  
 else {  
 arr[++top] = item;  
 }  
}  
void pop(){  
 if(isEmpty()){  
 printf("\nStack Underflow\n\n");  
 }else{  
 int item = arr[top];  
 top--;  
 printf("\nElement %d DELETED ",item);  
 }  
}  
  
void display(){  
 printf("\nCurrent STACK :\n");  
 if(isEmpty()){  
 printf("\nStack is Empty \n");  
 }else{  
 for(int i=top; i>-1; i--){  
 printf(" %d \n",arr[i]);  
 }  
 }  
}  
  
void deleteOccurence(int item){  
 if(isEmpty()){  
 printf("\nStack Underflow\n\n");  
 }else{  
 int count = 0;  
 int frequency=0;  
 for(int i=top;i>-1;i--){  
 if(arr[i]==item){  
 frequency++;  
 }  
 }  
 if(frequency>1){  
 for(int i=top;i>-1;i--){  
 if(arr[i]==item){  
 for (int j=i;j<size-1;j++){  
 arr[j]=arr[j+1];  
 }  
 count++;  
 if(count==2){  
 top=top-2;  
 break;  
 }  
 }  
 }  
 }else if (frequency == 0){  
 printf("\n Value doesn't exists \n\n");  
 }else{  
 printf("\n Value doesn't occur more than 1 times \n\n");  
 }  
 }  
  
}  
void bottomElementReturn(){  
 if(isEmpty()){  
 printf("\nStack Underflow\n\n");  
 }else{  
 int ptr = 0;  
 printf("Bottom Element : %d ",arr[ptr]);  
 }  
}  
void fifthElementReturn(){  
 if(isEmpty()){  
 printf("\nStack Underflow\n\n");  
 }else if(top<4){  
 printf("\nStack doesn't contains five elements\n\n");  
 }else{  
 int ptr = top;  
 ptr = ptr - 4;  
 printf("Fifth Element : %d ",arr[ptr]);  
 }  
}  
  
void main(){  
 int n,x,y;  
 char ans='y';  
 printf("Enter Stack size :");  
 scanf("%d", &size);  
 arr = (int\*) malloc (size \* sizeof(int));  
 top=-1;  
 printf("\n--- OPERATION ON STACK --- \n\n");  
 printf(" 1. PUSH \n");  
 printf(" 2. POP\n");  
 printf(" 3. DELETE OCCURENCE OF X \n");  
 printf(" 4. RETURN BOTTOM ELEMENT \n");  
 printf(" 5. RETURN FIVTH ELEMENT \n");  
 printf(" 6. DISPLAY\n");  
 printf(" 7. EXIT\n");  
 while(ans=='y'){  
 printf("\nEnter the Choice (1/2/3/4/5/6/7): ");  
 scanf("%d",&n);  
 switch(n){  
 case 1:printf("--- PUSH ---\n");  
 printf("Enter element to be Inserted :");  
 scanf("%d", &x);  
 push(x);  
 break;  
 case 2:printf("--- POP ---\n");  
 pop();  
 break;  
 case 3:printf("--- DELETE OCCURENCE OF X---\n");  
 printf("Enter element to be Deleted :");  
 scanf("%d", &x);  
 deleteOccurence(x);  
 break;  
 case 4:printf("--- RETURN BOTTOM ELEMENT ---\n");  
 bottomElementReturn();  
 break;  
 case 5:printf("--- RETURN FIVTH ELEMENT ---\n");  
 fifthElementReturn();  
 break;  
 case 6:printf("--- DISPLAY ---\n");  
 display();  
 break;  
 case 7:ans='n';  
 break;  
 default:printf("Enter a Valid Input\n");  
 }  
 }  
Output:







