// Online C compiler to run C program online

#include <stdio.h>

#include <stdlib.h>

#define MAX 4

int top=-1;

int stack\_arr[MAX];

int isEmpty()

{

if(top==-1)

return 1;

else

return 0;

}

int isFull()

{

if(top==MAX -1)

return 1;

else

return 0;

}

void push(int data)

{

if(isFull())

{

printf("Stack overflow");

}

else

{

top++;

stack\_arr[top]=data;

}

}

int pop()

{

int value;

if(isEmpty())

{

printf("Stack underflow");

exit(1);

}

value=stack\_arr[top];

top=top-1;

return value;

}

int peek()

{

if(isEmpty())

{

printf("Stack Underflow");

exit(1);

}

else

return stack\_arr[top];

}

void print()

{

int i;

for(i=top;i>=0;i--)

{

printf("%d ",stack\_arr[i]);

}

printf("\n");

}

int main() {

// Write C code here

int n,data;

while(1)

{

printf("\n");

printf("1. Push\n");

printf("2. Pop\n");

printf("3. Print the top element of the stack\n");

printf("4. Print all the elements of the stack\n");

printf("5. Quit\n");

printf("Please Enter the choice\n");

scanf("%d",&n);

switch(n)

{

case 1:

printf("Enter the element to be pushed ");

scanf("%d",&data);

push(data);

break;

case 2:

data=pop();

printf("The element that is deleted is %d",data);

break;

case 3:

printf("The topmost element of the stack is %d",peek());

break;

case 4:

print();

break;

}

}

return 0;

}

