class Stack:

# Constructor to initialize the stack

def \_\_init\_\_(self, size):

self.arr = [None] \* size

self.capacity = size

self.top = -1

# Function to add an element `x` to the stack

def push(self, x):

if self.isFull():

exit(1)

self.top = self.top + 1

self.arr[self.top] = x

# Function to pop a top element from the stack

def pop(self):

# check for stack underflow

if self.isEmpty():

exit(1)

# decrease stack size by 1 and (optionally) return the popped element

top = self.arr[self.top]

self.top = self.top - 1

return top

# Function to return the top element of the stack

def peek(self):

if self.isEmpty():

exit(1)

return self.arr[self.top]

# Function to return the size of the stack

def size(self):

return self.top + 1

# Function to check if the stack is empty or not

def isEmpty(self):

if self.size() == 0:

return 1

else:

return 0

# Function to check if the stack is full or not

def isFull(self):

if self.size() == self.capacity:

return 1

else:

return 0