

مقدمه

برنامه نویسی پیرامون C++

محبوب

- C vs. C++
- Implementing queue with C
- limits

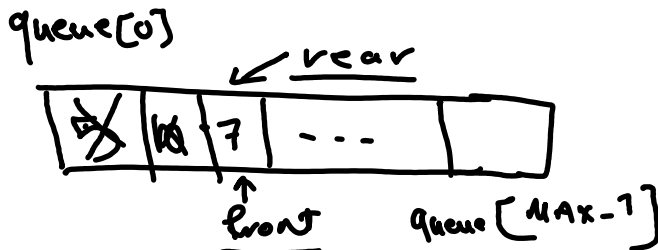
✓ - Object-Oriented languages vs. procedural languages

✓ - C vs. C++

queue FIFO



insert
remove



insert(5)
insert(10)
insert(7)

C:
SIZE = 10
#define MAX 10
int queue[MAX];

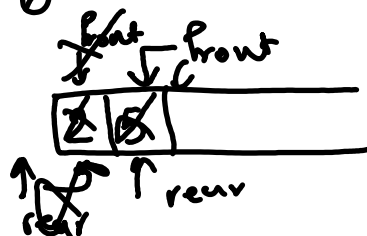
remove()
remove()

configuration:

→ rear = -1
→ front = 0
count = 0

insert(data)

→ rear



queue[++rear] = data;
count++;

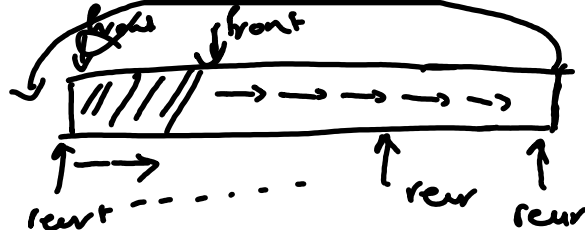
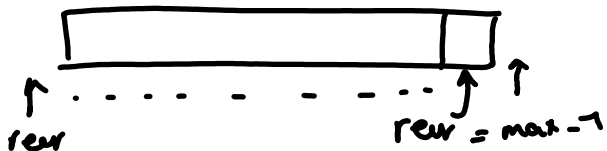
insert(2) insert(5)

```
int remove() {  
    int tmp = queue[front];  
    front++;  
    count--;  
    return tmp;  
}
```

remove() →
remove()

SIZE

insert

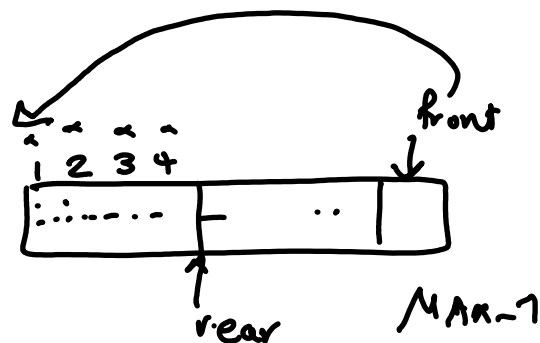


++rear
 if (count == MAX)
 return; // Error do not insert

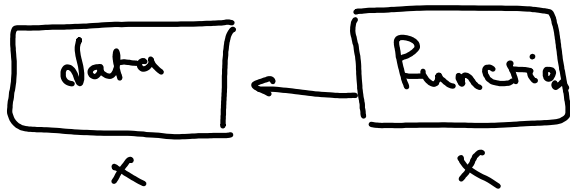
remove



if (count == 0)
 // do not remove

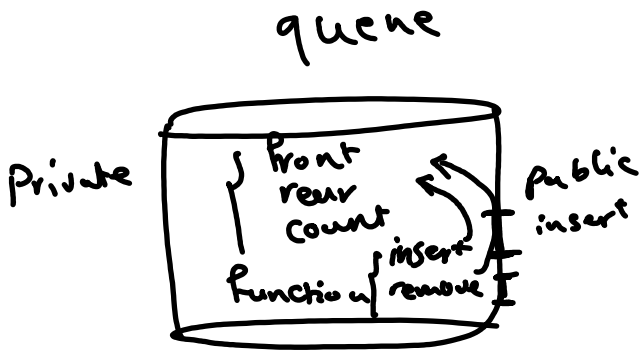


(C) Procedural در زبان های
 (C++) در زبان مدرسه



سطح دسترسی برای
 داده + توابع

queue q1, q2;



main
 insert(15)

Encapsulation - 1
 Data hiding

main
 compile error ← x front++;

2 - configuration
 ← create-q
 ← destroy-q

3 - هندسه هندسی
 4 - Template / generic type
 → q1 <int> q1 <Student>
 q2 <float>

C

Struct

—

—

—

—

I/O printf / scanf stdio.h

file fprintf / fscanf "

—

heap malloc / calloc / free

C++
data hiding — encapsulation

struct — class

Inheritance — Polymorphism

Template Function / class

Exception handling

Function / operator overloading

iostream cin >> cout <<

fstream >> <<

namespace

new delete

