Phill-CPP-0426

```cpp
#include <iostream>
using namespace std;

/*
 * Reserve_seats
 * description:
 * arguments:
 * @param arr1: type,xxxx, xxx
 * return :
 */
int reserve_seats(int *arr1,int x,int y,int size,int numbers){
  // cout << *xx <<endl;    //<<<---- 2  取值
  //cout << xx <<endl;     //<<<---- 0x7ffff3de4540 取位置


 for(int i=0;i<numbers;i++){
     int *xx=arr1+(x*size+i);
      //cout <<xx <<endl;
      if(*xx==0 && numbers<=4){
        *xx=1;
        //cout << *xx <<endl;
      }

 }

     //cout << *xx <<endl;


for(int j=0;j<4;j++){

     // cout <<arr1[j];

  }
  cout <<endl;
  return *arr1;
}

int display_seating(int *arr1,int x, int y)
{

  int *reserve_arr1=arr1;

for(int j=0;j<4;j++){

     cout <<"\t"<<reserve_arr1[j];

  }

  cout <<endl;
  cout << "Your seats alreay booked!!" <<endl ;
}
```

```cpp
int main()
{
  // 計數類
  int x;
  int y;
  char again;
  int numbers;  //default  =1

  // 資料類
  int arr1[] = {0,0,0,0};
  int size = sizeof(arr1)/sizeof(arr1[0]);


  cout <<"Please input your numbers: ";
  cin >> numbers;
  cout << numbers << endl;
  cin >> again;
  if(numbers>4){
    cout << "over range" <<endl;
  }
  if(numbers<=4){
    for(int i=0;i<numbers;i++){
      x=0;
      y=i;
     // cout << x <<y <<endl;
    }
  }



  reserve_seats(arr1,x,y,size,numbers);
  display_seating(arr1,x,y);

 while(again=='y'){
   cout << "Would you like to do it again (y/n)? " <<again <<endl;

 }
//  cout << "Goodbye!";


  return 0;

}
```

？條件運算子

用於簡潔的條件判斷

```cpp
#include <iostream>
using namespace std;

int main()
{
    bool flag=true;
    //xxxx
    //xxxx
    //xxxx
    //flag= false;

    string a = (flag)?"something happened":"normal";

    cout << a <<endl;
    return 0;
}
```

練習

輸入一個年齡

印出 青少 成人 老人

```cpp
#include <iostream>
using namespace std;

int main()
{
    int age=25;

    cout << ((age>=60)?"aged"
            :(age>=18)?"adult"
            :(age>=10)?"youth"
            :"others") << endl;
    // cout<< result << endl;
    return 0;
}
```

Loop

- for loop

- while

- do...while

for → 以條件為基礎的迴圈

```cpp
#include <iostream>
using namespace std;

int main()
{
   int i;
   for(i=0; i<=10; i++){ //三段式:前 中 後
     cout <<i <<endl;
   }
    return 0;
}
```

```cpp
#include <iostream>
using namespace std;

int main()
{

   for(int i=0; i<=10; i++){ // scope
     cout <<i <<endl;
   }


    return 0;
}
```

```cpp
#include <iostream>
using namespace std;

int main()
{

   for(int i=10; i>=0; i--){ // scope
     cout <<i <<endl;
   }


    return 0;
}
```

```cpp
#include <iostream>
using namespace std;

int main()
```

```
{

  for(int i=0; i<=10; i+=2){ // scope
    cout <<i <<endl;
  }


    return 0;
}
```

practice: 判斷質數

- 1, 自己 沒有人能除盡

- 輸入 → 是不是質數

- %

- 嘗試錯誤法

for 三段式