

# *APCS*增能班

*VECTOR*



# INTRODUCTION

- *Vectors are sequence containers representing arrays that can change in size*
- *Just like arrays, vectors use contiguous storage locations for their elements, which means that their elements can also be accessed using offsets on regular pointers to its elements, and just as efficiently as in arrays. But unlike arrays, their size can change dynamically, with their storage being handled automatically by the container.*



# SAMPLE

- Code

```
#include <iostream>
//string constructor
#include <vector>

int main() {
    std::vector<int> first;
    std::vector<int> second (5,312); // five ints with value 312
    std::vector<int> third (second.begin(),second.end());
    std::vector<int> fourth (third);

    int sam[] = {12,21,35,28,51};
    std::vector<int> copysam (sam,sam + sizeof(sam) / sizeof(int) );
}
```

- Output

```
first: size: 0 :
second: size: 5 : 312 312 312 312 312
third: size: 5 : 312 312 312 312 312
fourth: size: 5 : 312 312 312 312 312
sam: size: 5 : 12 21 35 28 51
copysam: size: 5 : 12 21 35 28 51
```

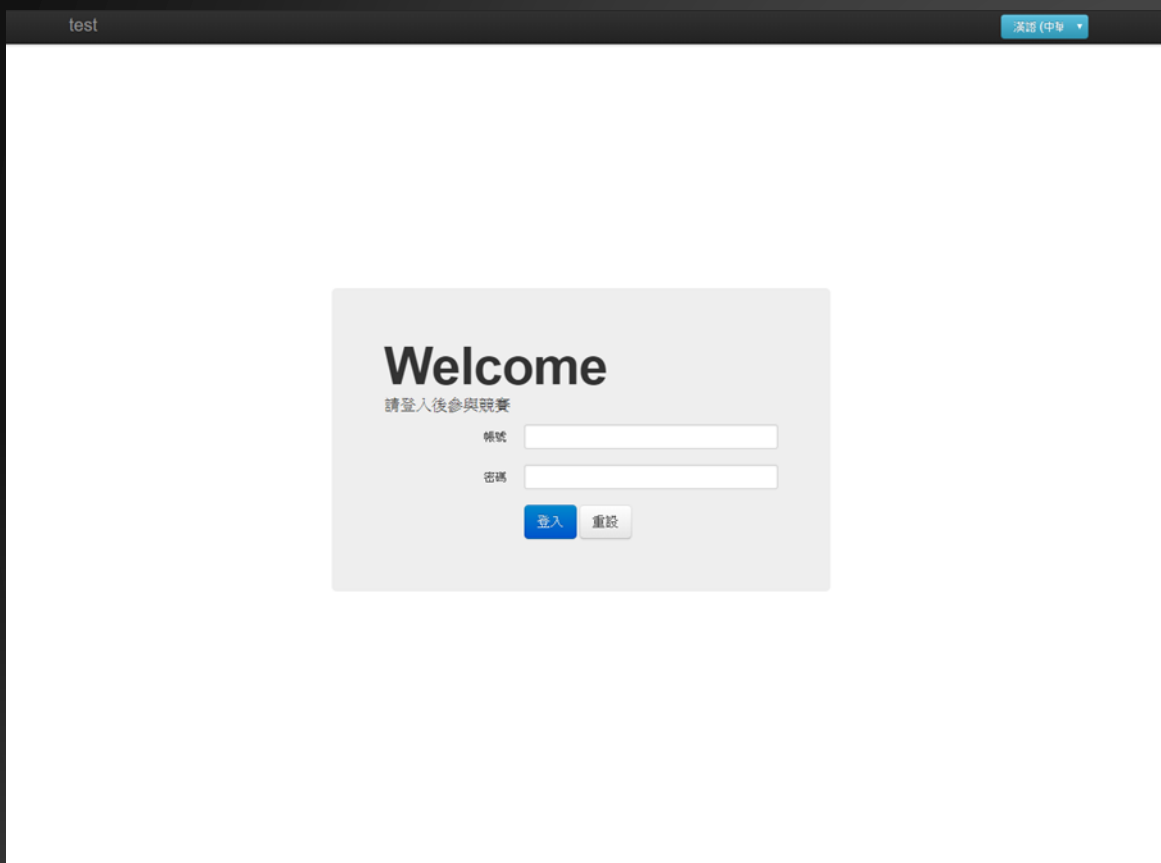


# FUNCTION

- *size* - Return size
- *begin* - Return iterator to beginning
- *end* - Return iterator to end
- *empty* - Test whether vector is empty
- *push\_back* - Add element at the end



# 測驗



The screenshot shows a web browser window with a dark header bar containing the text "test" on the left and a language dropdown menu "英語 (中華)" on the right. The main content area is white and features a light gray login box. Inside the box, the word "Welcome" is displayed in a large, bold font. Below it, the text "請登入後參與競賽" (Please log in to participate in the competition) is shown. There are two input fields: the first is labeled "帳號" (Username) and the second is labeled "密碼" (Password). Below the password field are two buttons: a blue button labeled "登入" (Login) and a gray button labeled "重設" (Reset).

- 進入測驗網站
- 帳號與密碼皆為您的學號

