work1~work4總整理!

標頭檔:

**<istream>**

**<ostream>**

**<iostream>**

**<ofstream>**

**<ifstream>**

**<ostringstream>**

**<istringstream>**

**<fstream>**

**<string>**

**<vector>**

**<sstream>**

函數:

**string:: .c\_str() 把string改成char array**

**fopen() 打開文件(文件名，打開模式)Open file(char \* filename, char \* mode)**

**mode:**

* **"r":Open file for input operations. The file must exist.**
* **"w":Create an empty file for output operations. If a file wit the same name already exists, its contents are discarded and the file is treated as a new empty file.**
* **"a":Open file for output at the end of a file. Output operations always write data at the end of the file, expanding it. Repositioning operations (fseek, fsetpos, rewind) are ignored. The file is created if it does not exist.**
* **"r+":Open a file for update (both for input and output). The file must exist.**
* **"w+":Create an empty file and open it for update (both for input and output). If a file with the same name already exists its contents are discarded and the file is treated as a new empty file.**
* **"a+":Open a file for update (both for input and output) with all output operations writing data at the end of the file. Repositioning operations (fseek, fsetpos, rewind) affects the next input operations, but output operationd move the position back to the end of file. The file is created if it does not exist.**

**fwrite() 寫入文件 (pointer, size, count, stream), size為每個字節的單位大小ex:sizeof(char);count:size of size bytes,EX:fwrite (buffer, sizeof(char), sizeof(buffer), pFile);**

**scanf() 讀取變數(讀取出的類型EX%s，變數名), it will read and ignore any whitespace characters encountered before the next non-whitespace character(whitespace characters include spaces, newline and tab characters); %i: Integer, %d or u: Decimal integer, %o: Octal integer, %x: Hexadecimal integer, %f,e,g,a: Floating point number, %c: Cfaracter, %s: String of characters, %p: Pointer address, %[characers]: Scanset; %[^characters]: Negated scanset; %n: Count; %%: %**

**printf() 印出(EX:printf ("whatever : %(s) + any specifiers", const or whatever)**

**cin >> 輸入**

**cout << 輸出**

**find() 尋找(開頭，結尾，要找的), InpuIterator = find (InputIterator first, InputIterator last, const T& val); and the function uses operator == to compare the indicidual element to val.**

**getline() 讀取整行(含空格不含換行)(要讀取的東西( or cin)，讀取進的位置)**

**.getline() 讀取整行(含空格不含換行)(char\* s, streamsize n(, char delim) ); cin.getline(讀取進的位置char\*, 要讀取的東西streamsize n )**

**vector:: .pop\_back() Deelete last element: Removs the last element in the vector, effectively reducing the container size by one. This destroys thr removed element.**

**vector:: .push\_back() 放入(最後一項) Add element at the end: Add a new element at the end of the vector, after its current last elemen. The content of val is copied (or moved) to the new element. This effectively increases the container size by one, which causes an automatic reallocation of the allocated storage space if -and only if- the new vector size surpasses the current vector capacity.**

**strtok() 卡掉 char \* str ( char \* str, const char \* delimiters);Split string into tokens**

**(EX:**

**char str[] = "!@##&\*()!@(123";**

**pch = strtok (str, "!@#$%^&\*()\_+");**

**printf("%s", str);**

**Output:**

**1**

**2**

**3 )**

**fprintf() 印出文件**

**fscanf() 讀取文件**

**fclose() 關閉文件**

**.size() 大小**

**.length() 長度**

**.begin() 開始**

**.end() 結尾**

**count() 計數(開頭，結尾，要計的東西)**

**.resize() 重設大小**

**.substr() 子字串(要取出的字串的開始，開始後取出的長度)**

**strcpy() 複製字串(複製到的新變數，被複製的(需要是char類型))**

**.compare() 比較(相同為1不同為0)**

**stringstream 字串流(可被用來直接輸出<<或輸入>>)**

**break 不論如何，直接結束程式**

**.peek() 偷看(看哪裡.peek(要看的東西))**

**.assign() 分配(分配的東西)(加在最後)**

**string:: .find() it can use string, c-string, buffer, character:** [**https://www.cplusplus.com/reference/string/string/find/**](https://www.cplusplus.com/reference/string/string/find/)

**sizeof() : sizeof(counst) == counst.size() ???**

**fstream 文件流，可以被直接輸入或輸出**

**.read() 讀取文件**

**.open() 打開文件**

**.close() 關閉文件**

**.write() 改寫文件**

**open (filename, mode); filenamemode :**

**ios::in Open for Input operations.**

**ios::out Open for output operations.**

**ios::trunc If the file is opened for output operations and it already existed, its previous content os deleted and replaced by the new one.**

**ios::app All ouput operations are performed at the end of the file, appending the content to the current content of the file.**

**ios::ate Set the initial position at the end of the file. If this flag is not set, the initial position is the begining of the file.**

**ios:binary Open in binary mode.**

**All these flags can be combined using the bitwise operator OR(|).**

**EOF 保留至(End of File)在EOF的時候return 0;否則會 return non-zero**

**NULL 到最後的空白符? = Null pointer : This macro expands to a null pointer constant.(Like: 0 or 0L or (void\*()0).**

**fgetc() 讀取文件內的 char int fgetc (FILE \* stream) Get character from stream: Returns the character currently pointed by the internal file position indicator of the specified stream. The internal file positon indicator is then advsanced to the next character.**

**If the stream is at the end-of-file when called, the function returns EOF and sets the end-of-file indicator for the stream(feof).**

**If a read error occurs, the function returns EOF and sets the error indicator forthe stream(ferror).**

**fgetc and getc are equicalent, except that getc may be implememted as macro in some libraries.**

**Parameters stream: Pointer to a FILE object that identifies an input stream.**

**.is\_open() Check if a file is open, non parameters**

**ofstream 只可被用來直接做輸出的文件流**

不同的寫法:

**while(){} (滿足條件){循環執行}**

**do{}while() {執行}(滿足條件)**

**for(){} (開始，判斷條件，下一次的執行){循環執行}**

**if(){} (條件成立){執行}**

**if(){}else{} (條件成立){執行}{否則執行}**

**if(){}else if(){}else{} (條件成立){執行}(條件成立){執行}{否則執行}**

**ifstream 可被用來輸入的文件流**

**.get() 讀取char(要讀取的變數，讀取的類型)**

**iterator 迭代器**

**---------------------------------------------------------------------------------**

**int myints[] = { 10, 20, 30, 40 }; //第一個寫法**

**上面的寫法也可以用下面五行來寫**

**int myints[4]; //第二種寫法**

**myints[0] = 10;**

**myints[1] = 20;**

**myints[2] = 30;**

**myints[3] = 40;**

**myints 代表 myints[0]的內涵值, myints是一個指標**

**(myints+1) 代表 myints[1]的valus, (myints+1)也是一個指標**

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