

02/24 程設(一)實習課

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偵錯

File Edit Search View Project Execute Tools AStyle Window Help

(globals)

xyz.cpp

```
1 #include<bits/stdc++.h>
2 using namespace std;
3 int main()
4 {
5     //initializing vector
6     vector<int>v={1,2,3,4,5};
7     //using the auto key word to iterate over the vector
8     for(auto x:v)
9     {
10        //printing elements of vector
11        cout<<x<<" ";
12    }
13 }
14 }
```

Compiler (10) Resources Compile Log Debug Find Results Close

Line	Col	File	Message
		C:\Users\GaUrAv\Desktop\xyz.cpp	In function 'int main()':
6	28	C:\Users\GaUrAv\Desktop\xyz.cpp	[Error] in C++98 'v' must be initialized by constructor, not by '{...}'
6	28	C:\Users\GaUrAv\Desktop\xyz.cpp	[Error] could not convert '{1, 2, 3, 4, 5}' from '<brace-enclosed initializer list>' to 'std::vector<int>'
8	14	C:\Users\GaUrAv\Desktop\xyz.cpp	[Error] 'x' does not name a type
14	1	C:\Users\GaUrAv\Desktop\xyz.cpp	[Error] expected ';' before '}' token
14	1	C:\Users\GaUrAv\Desktop\xyz.cpp	[Error] expected primary-expression before '}' token
14	1	C:\Users\GaUrAv\Desktop\xyz.cpp	[Error] expected ';' before '}' token
14	1	C:\Users\GaUrAv\Desktop\xyz.cpp	[Error] expected primary-expression before '}' token

縮排 (按鍵盤上的tab鍵就能整齊排列囉！)

```
1  #include<iostream>
2  #include<cstdlib>
3  using namespace std;
4
5  int main(){
6  [ ] int i;
7  [ ] for(i = 0; i < 5; i++){
8      [ ] cout << i;
9      }
10 [ ] return 0;
11 }
```

```
1  #include<iostream>
2  #include<cstdlib>
3  using namespace std;
4
5  [ ] int main(){
6      [ ] int i;
7      [ ] for(i = 0; i < 5; i++){
8          [ ] cout << i;
9          [ ] }
10     [ ] return 0;
11     [ ] }
```

變數

- 整數
 - ex. short int (短整數型態 2bytes) 、 int (整數型態 4bytes)
- 浮點數
 - ex. float (單精度浮點數 4bytes) 、 double (倍精度浮點數 8bytes)
- 字元 char (1 bytes)
- 字串 string
- 布林 bool

練習1 - 變數宣告

```
1  #include<iostream>
2  #include<cstdlib>
3  using namespace std;
4
5  int main(){
6      int a = 10, d;
7      float b = 3.3;
8      char c = 'A';
9      bool e = (5>3);
10     d = c;
11
12     cout << "a = " << a << endl;
13     cout << "b = " << b << endl;
14     cout << "c = " << c << endl;
15     cout << "d = " << d << endl;
16     cout << "e = " << e << endl;
17     return 0;
18 }
19
```

ASCII Code

二進位	十進位	十六進位	圖形	二進位	十進位	十六進位	圖形	二進位	十進位	十六進位	圖形
0010 0000	32	20	(space)	0100 0000	64	40	@	0110 0000	96	60	`
0010 0001	33	21	!	0100 0001	65	41	A	0110 0001	97	61	a
0010 0010	34	22	"	0100 0010	66	42	B	0110 0010	98	62	b
0010 0011	35	23	#	0100 0011	67	43	C	0110 0011	99	63	c
0010 0100	36	24	\$	0100 0100	68	44	D	0110 0100	100	64	d
0010 0101	37	25	%	0100 0101	69	45	E	0110 0101	101	65	e
0010 0110	38	26	&	0100 0110	70	46	F	0110 0110	102	66	f
0010 0111	39	27	'	0100 0111	71	47	G	0110 0111	103	67	g
0010 1000	40	28	(0100 1000	72	48	H	0110 1000	104	68	h
0010 1001	41	29)	0100 1001	73	49	I	0110 1001	105	69	i
0010 1010	42	2A	*	0100 1010	74	4A	J	0110 1010	106	6A	j
0010 1011	43	2B	+	0100 1011	75	4B	K	0110 1011	107	6B	k
0010 1100	44	2C	,	0100 1100	76	4C	L	0110 1100	108	6C	l
0010 1101	45	2D	-	0100 1101	77	4D	M	0110 1101	109	6D	m

練習2 - ++ 後置、前置差別

後置練習

```
1 #include<iostream>
2 #include<cstdlib>
3 using namespace std;
4
5 int main(){
6     int a = 0, b = 1, c;
7     c = a++ + b;
8
9     cout << "a = " << a << endl;
10    cout << "c = " << c << endl;
11
12    return 0;
13 }
```

前置練習

```
1 #include<iostream>
2 #include<cstdlib>
3 using namespace std;
4
5 int main(){
6     int a = 0, b = 1, c;
7     c = ++a + b;
8
9     cout << "a = " << a << endl;
10    cout << "c = " << c << endl;
11
12    return 0;
13 }
```

比較運算子 == 、!=

- 各種比較運算子的結果不是0就是1。0表示結果為False，1表示結果為True
- ==
 - 二元運算子，判斷「==」左邊的資料是否等於右邊的資料
 - ex. $5==8 \Rightarrow 0$
- !=
 - 二元運算子，判斷「!=」左邊的資料是否不等於右邊的資料
 - ex. $5!=8 \Rightarrow 1$

練習3 - ==、!=

題目

```
1  #include<iostream>
2  #include<cstdlib>
3  using namespace std;
4
5  int main(){
6      int a = (2/* == or != */6);
7      int b = !(3/* == or != */3);
8      int c = (5/* == or != */3);
9
10     cout << "a = " << a << endl;
11     cout << "b = " << b << endl;
12     cout << "c = " << c << endl;
13
14     return 0;
15 }
```

執行結果

```
a = 1
b = 0
c = 0
```

補充說明：

“！”：否定運算子，一關係運算式結果為 1(True)時，否定之結果為 0(False)；一關係運算式結果為 0(False)時，否定之結果為 1(True)。

練習3 - 答案

```
1  #include<iostream>
2  #include<cstdlib>
3  using namespace std;
4
5  int main(){
6      int a = (2!=6);
7      int b = !(3==3);
8      int c = (5==3);
9
10     cout << "a = " << a << endl;
11     cout << "b = " << b << endl;
12     cout << "c = " << c << endl;
13
14     return 0;
15 }
```

一起來 debug (共五處)

```
1  #include<iostream>
2  #include<cstdlib>
3
4
5  int main(){
6      int num;
7      cout << "請輸入列印行數：";
8      cin << num
9      for(int i = 0; i < num; i++){
10         for(int j = 0; j < i+1; j++)
11             cout << "*";
12         cout >> endl;
13
14         return 0;
15     }
```

Hint !

```
1  #include<iostream>
2  #include<cstdlib>
3  ①
4
5  int main(){
6      int num;
7      cout << "請輸入列印行數：";
8  ② ③ cin << num
9      for(int i = 0; i < num; i++){
10         for(int j = 0; j < i+1; j++)
11             cout << "*";
12  ④     cout >> endl;
13  ⑤
14     return 0;
15 }
```

debug-Ans

```
1  #include<iostream>
2  #include<cstdlib>
3  using namespace std;
4
5  int main(){
6      int num;
7      cout <<"請輸入列印行數：";
8      cin >> num;
9      for(int i = 0; i < num; i++){
10         for(int j = 0; j < i+1; j++)
11             cout << "*";
12         cout << endl;
13     }
14     return 0;
15 }
```