

Programming 4kids Errors!

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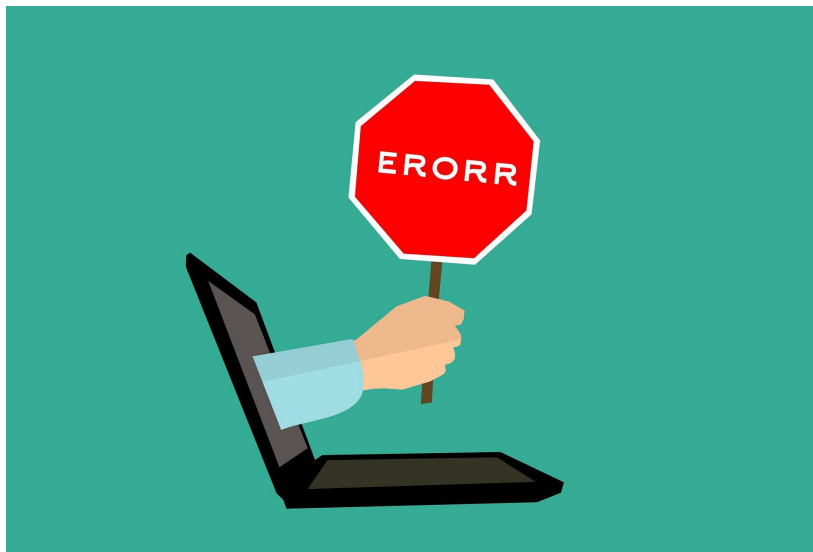
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Compiler Error: Missing semicolon

```
1 #include<iostream>
2 using namespace std;
3
4 int main()
5 {
6     cout<<"I am Mostafa"
7
8     return 0;
9 }
10
```

CDT Build Console [ztemp]

```
21:25:27 **** Auto Build of configuration Debug for project ztemp *
make all
Building file: ../01_07_printing.cpp
Invoking: Cross G++ Compiler
g++ -O0 -g3 -Wall -c -fmessage-length=0 -std=c++11 -MMD -MP -MF"01_
../01_07_printing.cpp: In function 'int main()':
../01_07_printing.cpp:8:2: error: expected ';' before 'return'
    return 0;
    ^
subdir.mk:18: recipe for target '01_07_printing.o' failed
make: *** [01_07_printing.o] Error 1

21:25:28 Build Finished (took 560ms)
```

<< be careful

```
1 #include<iostream>
2 using namespace std;
3
4 int main()
5 {
6     cout<<<<"I am mostafa "< <"saad\n";
7
8     return 0;
9 }
```

Console Problems Tasks Properties Call Graph Search

CDT Build Console [ztemp]

19:13:01 **** Incremental Build of configuration Debug for project ztemp ****

make all

Building file: ../02_11.cpp

Invoking: Cross G++ Compiler

g++ -O0 -g3 -Wall -c -fmessage-length=0 -std=c++11 -MMD -MP -MF"02_11.d" -MT"02_1

../02_11.cpp: In function 'int main()':

../02_11.cpp:6:8: error: expected primary-expression before '<<' token

cout<<<<"I am mostafa "< <"saad\n";

../02_11.cpp:6:27: error: expected primary-expression before '<' token

cout<<<<"I am mostafa "< <"saad\n";

subdir.mk:18: recipe for target '02_11.o' failed

make: *** [02_11.o] Error 1

19:13:01 Build Finished (took 613ms)

- <<

- NOT

- <<<

- <<<<

- < <

- < <

- >>

Compiler Error: Missing double quote char

```
1 #include<iostream>
2 using namespace std;
3
4 int main()
5 {
6     cout<<"I am Mostafa;
7
8     return 0;
9 }
10
```

Problems Tasks Console Properties Call Graph Search

CDT Build Console [ztemp]

21:26:40 **** Auto Build of configuration Debug for project ztemp ****

make all

Building file: ../01_07_printing.cpp

Invoking: Cross G++ Compiler

g++ -O0 -g3 -Wall -c -fmessage-length=0 -std=c++11 -MMD -MP -MF"01_07_printing.

../01_07_printing.cpp:6:8: warning: missing terminating " character

cout<<"I am Mostafa;

^

../01_07_printing.cpp:6:2: error: missing terminating " character

cout<<"I am Mostafa;

^

../01_07_printing.cpp: In function 'int main()':

../01_07_printing.cpp:8:2: error: expected primary-expression before 'return'

return 0;

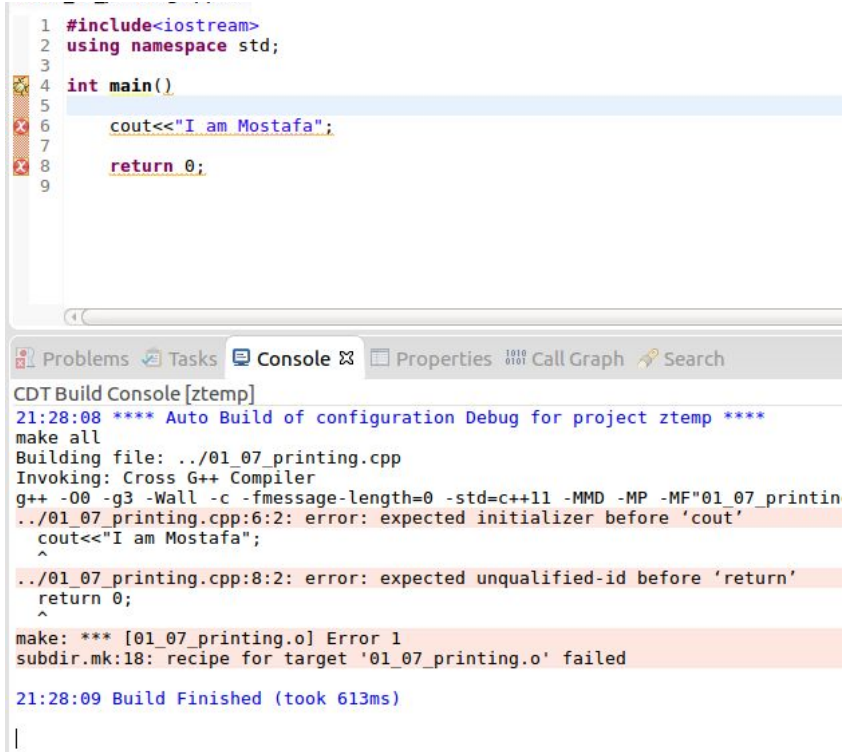
^

make: *** [01_07_printing.o] Error 1

subdir.mk:18: recipe for target '01_07_printing.o' failed

21:26:40 Build Finished (took 562ms)

Compiler Error: Missing the braces { }



The screenshot shows a C++ IDE with a source editor and a console window. The source editor contains the following code:

```
1 #include<iostream>
2 using namespace std;
3
4 int main()
5 {
6     cout<<"I am Mostafa";
7
8     return 0;
9 }
```

The console window shows the following output:

```
CDT Build Console [ztemp]
21:28:08 **** Auto Build of configuration Debug for project ztemp ****
make all
Building file: ../01_07_printing.cpp
Invoking: Cross G++ Compiler
g++ -O0 -g3 -Wall -c -fmessage-length=0 -std=c++11 -MMD -MP -MF"01_07_printin
../01_07_printing.cpp:6:2: error: expected initializer before 'cout'
    cout<<"I am Mostafa";
    ^
../01_07_printing.cpp:8:2: error: expected unqualified-id before 'return'
    return 0;
    ^
make: *** [01_07_printing.o] Error 1
subdir.mk:18: recipe for target '01_07_printing.o' failed
21:28:09 Build Finished (took 613ms)
```

Compiler Error: Missing #include<iostream>

```
1 using namespace std;
2
3 int main()
4 {
5     cout<<"I am Mostafa";
6
7     return 0;
8 }
9
```

Problems Tasks Console Properties Call Graph Search

CDT Build Console [ztemp]

21:29:07 **** Auto Build of configuration Debug for project ztemp ****

make all

Building file: ../01_07_printing.cpp

Invoking: Cross G++ Compiler

g++ -O0 -g3 -Wall -c -fmessage-length=0 -std=c++11 -MMD -MP -MF"01_07_printing.o" -o"01_07_printing.o" ../01_07_printing.cpp: In function 'int main()':

../01_07_printing.cpp:5:2: error: 'cout' was not declared in this scope

```
    cout<<"I am Mostafa";
    ^
```

subdir.mk:18: recipe for target '01_07_printing.o' failed

make: *** [01_07_printing.o] Error 1

21:29:08 Build Finished (took 471ms)

Compiler Error: Where is main function?

```
1 #include<iostream>
2 using namespace std;
3
4 int MAIN()
5 {
6     cout<<"I am Mostafa";
7
8     return 0;
9 }
10
```

Problems Tasks Console Properties Call Graph Search

CDT Build Console [ztemp]

```
07:59:59 *** Auto Build of configuration Debug for project ztemp ***
make all
Building file: ../01_07_printing.cpp
Invoking: Cross G++ Compiler
g++ -O0 -g3 -Wall -c -fmessage-length=0 -std=c++11 -MMD -MP -MF"01_07_printing.d" -MT"01_07_printing.o" -o "01_07_printing.o"
Finished building: ../01_07_printing.cpp

Building target: ztemp
Invoking: Cross G++ Linker
g++ -o "ztemp" ../01_07_printing.o
/usr/lib/gcc/x86_64-linux-gnu/5/../../../../x86_64-linux-gnu/crt1.o: In function `_start':
(.text+0x20): undefined reference to `main'
collect2: error: ld returned 1 exit status
makefile:44: recipe for target 'ztemp' failed
make: *** [ztemp] Error 1

08:00:00 Build Finished (took 663ms)
```

- You must give main function
- But we have main?
- NO. C++ is **character sensitive**
- It must be main, not MAIN or Main or mAin or maiN

Compiler Error: Never print outside this way

```
1 #include<iostream>
2 using namespace std;
3
4 cout<<"I am Mostafa";
5
6 int main()
7 {
8
9
10     return 0;
11 }
12
```

Problems Tasks Console Properties Call Graph Search

CDT Build Console [ztemp]

```
08:09:15 **** Auto Build of configuration Debug for project ztemp ****
make all
Building file: ../01_07_printing.cpp
Invoking: Cross G++ Compiler
g++ -O0 -g3 -Wall -c -fmessage-length=0 -std=c++11 -MMD -MP -MF"01_07
../01_07_printing.cpp:4:1: error: 'cout' does not name a type
cout<<"I am Mostafa";
^
subdir.mk:18: recipe for target '01_07_printing.o' failed
make: *** [01_07_printing.o] Error 1

08:09:15 Build Finished (took 559ms)
```

- You must print (and many other operations) inside a function (main here)
- Later, a few things allowed outside

Compiler **warning**: Where is return?

```
1 #include<iostream>
2 using namespace std;
3
4 int main()
5 {
6     cout<<"I am Mostafa";
7 }
8
```

- Nothing stops the compiler to build the exe
- However, better to solve the warnings.
- Here we missed the return line. Which tells compiler we are done.
- But anyway. Once we reach line 7, program ends

Compiler **warning**: Maximum for int is 2147483647

```
1 #include<iostream>
2 using namespace std;
3
4 int main()
5 {
6     cout<<10*10*10*10*10*10*10*10*10<<"\n";
7     cout<<10*10*10*10*10*10*10*10*10<<"\n";
8
9     cout<<2147483647+0<<"\n";
10    cout<<2147483647+1<<"\n";
11
12    return 0;
13 }
14
```

[illegible]

- Overflow warning
- Maximum value for integer is 2147483647
- More \Rightarrow Fails



Run Time Error

```
1 #include<iostream>
2 using namespace std;
3
4 int main()
5 {
6     cout<<10<<"\n";
7     cout<<11/0<<"\n";
8     cout<<12<<"\n";
9
10    return 0;
11 }
12
```

Problems Tasks Console

<terminated> ztemp [C/C++ Application]

10

- Compiler think it is ok
 - No errors
 - No warnings
- Let's run
 - Divide by zero!
 - Program crashes in the middle
- [Reading](#)

Homework 1: Find all errors and fix them

```
03_01_homework.cpp
1 #include<stream
2 using namespace STD
3
4
5 cout <<"work smart not hard\n";
6
7
8 int maIN() {
9
10
11 cout << "Children must be taught how to think, not what to think"
12 cout << "We worry about what a child will become "tomorrow", yet we forget that he is someone today\n";
13 cout << "Children are not things to be molded"< , but are people to be unfolded\n";
14 cout << "Each day of our lives we make deposits in the memory banks of our children."<<end;
15 cout << "It is easier to build strong children than to repair broken men"<<"\n";
16 cout >> "Children need models rather than critics\n";
17
18 out<<"Children have never been very good at listening to their elders, but they have never failed to imitate them";
19
20 cout < "Children are our most valuable resource\n";
21
22
```

Your next tasks

- Create all the errors we did today.
 - Read the compiler error msg very well. Maybe keep it in some notes
- Create your errors!
 - Faced new error. Learn it
 - Don't understand? Maybe google it

تم بحمد الله

علمكم الله ما ينفعكم

ونفعكم بما تعلمتم

وزادكم علماً