

A

What's this issue?

make output:

```
make[1]: *** No rule to make target 'all'. Stop.
```

directory listing:

```
$ ls -l
total 0
$
```

B

What's wrong with this repository?

directory listing:

```
$ ls -l
total 4
-rw-rw-r-- 1 cgl cgl 99 Jan 14 12:52 hello
$
```

What's wrong with this repository?

directory listing:

```
$ ls -l
total 8
drwxrwxr-x 3 cgl cgl 4096 Jan 21 16:28 library-audiofiles
-rw-rw-r-- 1 cgl cgl 166 Jan 21 16:25 Makefile
$
```

What's this issue?

make output:

```
g++ -MT test_03_01_ApplicationData.o -MMD -MP -MF .d/test_03_01_ApplicationData.Td -g -Wall -std=c++17 -
Wpedantic -Wextra -Werror -I/home/cgl/courses/ut-cs3005-main/ut-cs3005-students-lite/students/cs3005-
202520-proj-XYZ/include -c -o test_03_01_ApplicationData.o ../../unit-tests-by-assignment/assignment-
03/tests/test_03_01_ApplicationData.cpp
../../unit-tests-by-assignment/assignment-03/tests/test_03_01_ApplicationData.cpp:1:10: fatal error:
ApplicationData.h: No such file or directory
   1 | #include "ApplicationData.h"
     |           ^~~~~~~~~~~~~~~~~~~~~
compilation terminated.
```

directory listing:

```
$ ls -l
total 20
drwxrwxr-x 2 cgl cgl 4096 Jan 21 16:26 lib
drwxrwxr-x 2 cgl cgl 4096 Jan 21 16:26 library-audiofiles
-rw-rw-r-- 1 cgl cgl 219 Jan 16 13:29 Makefile
drwxrwxr-x 2 cgl cgl 4096 Jan 21 16:27 program-hello
drwxrwxr-x 7 cgl cgl 4096 Jan 14 12:52 task3
$
```

Here is an error message; followed by the directory listing

make output:

```
make -C AudioTrack all
make[2]: Entering directory 'AudioTrack'
g++ -o AudioTrack AudioTrack.o
/usr/bin/ld: /usr/lib/gcc/x86_64-linux-gnu/11/../../../../x86_64-linux-gnu/Scrt1.o: in function `_start':
(.text+0x1b): undefined reference to `main'
collect2: error: ld returned 1 exit status
```

directory listing:

```
$ ls -l
total 32
drwxrwxr-x 2 cgl cgl 4096 Jan 21 16:28 AudioTrack
drwxrwxr-x 2 cgl cgl 4096 Jan 21 16:26 include
drwxrwxr-x 2 cgl cgl 4096 Jan 21 16:26 lib
drwxrwxr-x 2 cgl cgl 4096 Jan 21 16:26 library-application
drwxrwxr-x 2 cgl cgl 4096 Jan 21 16:26 library-commands
-rw-rw-r-- 1 cgl cgl 386 Jan 21 16:25 Makefile
drwxrwxr-x 2 cgl cgl 4096 Jan 21 16:26 program-hello
drwxrwxr-x 2 cgl cgl 4096 Jan 21 16:26 program-questions3
$
```

What could this issue be?

make output:

```
make -C library-application install
make[2]: Entering directory 'library-application'
make[2]: *** No rule to make target 'install'. Stop.
```

directory listing:

```
$ ls -l library-application/
total 8
-rw-rw-r-- 1 cgl cgl 913 Jan 14 12:53 ApplicationData.cpp
-rw-rw-r-- 1 cgl cgl 601 Jan 21 16:25 ApplicationData.h
$
```

C

What's this issue?

make output:

```
g++ -MT test_03_01_ApplicationData.o -MMD -MP -MF .d/test_03_01_ApplicationData.Td -g -Wall -std=c++17 -
Wpedantic -Wextra -Werror -I/home/cgl/courses/ut-cs3005-main/ut-cs3005-students-lite/students/cs3005-
202520-proj-XYZ/include -c -o test_03_01_ApplicationData.o ../../unit-tests-by-assignment/assignment-
03/tests/test_03_01_ApplicationData.cpp
../../unit-tests-by-assignment/assignment-03/tests/test_03_01_ApplicationData.cpp:1:10: fatal error:
ApplicationData.h: No such file or directory
   1 | #include "ApplicationData.h"
     |           ^~~~~~~~~~~~~~~~~~~~~
compilation terminated.
```

directory listing:

```
$ ls -l
total 12
drwxrwxr-x 2 cgl cgl 4096 Jan 14 12:53 lib
-rw-rw-r-- 1 cgl cgl 27 Jan 14 12:53 Makefile
drwxrwxr-x 2 cgl cgl 4096 Jan 21 16:27 program-hello
$
```

What's this issue?

make output:

```
g++ -MT test_04_01_AudioTrackSetters.o -MMD -MP -MF .d/test_04_01_AudioTrackSetters.Td -g -Wall -std=c++17
-Wpedantic -Wextra -Werror -I/home/cgl/courses/ut-cs3005-main/ut-cs3005-students-lite/students/cs3005-
202520-proj-XYZ/include -c -o test_04_01_AudioTrackSetters.o ../../unit-tests-by-assignment/assignment-
04/tests/test_04_01_AudioTrackSetters.cpp
../../unit-tests-by-assignment/assignment-04/tests/test_04_01_AudioTrackSetters.cpp:1:10: fatal error:
AudioTrack.h: No such file or directory
    1 | #include "AudioTrack.h"
      |           ^~~~~~
compilation terminated.
```

Issue:

No library-audiofiles

What's this issue?

make output:

```
g++ -MT test_05_01_ApplicationDataHasAudioTrack.o -MMD -MP -MF
.d/test_05_01_ApplicationDataHasAudioTrack.Td -g -Wall -std=c++17 -Wpedantic -Wextra -Werror -I
/home/cgl/courses/ut-cs3005-main/ut-cs3005-students-lite/students/cs3005-202520-proj-XYZ/include -c -o
test_05_01_ApplicationDataHasAudioTrack.o ../../unit-tests-by-assignment/assignment-
05/tests/test_05_01_ApplicationDataHasAudioTrack.cpp
../../unit-tests-by-assignment/assignment-05/tests/test_05_01_ApplicationDataHasAudioTrack.cpp: In member
function 'virtual void ApplicationDataHasAudioTrackTest_getAudioTrack_Test::TestBody()':
../../unit-tests-by-assignment/assignment-05/tests/test_05_01_ApplicationDataHasAudioTrack.cpp:21:12:
error: 'class ApplicationData' has no member named 'getAudioTrack'
    21 |     app_data.getAudioTrack().setSize(samples_per_second, seconds);
      |           ^~~~~~
```

D

What's wrong with this linker command?

make output:

```
make -C program-audio-track-creator all # Add this line
make[2]: Entering directory 'program-audio-track-creator'
g++ -o audio_track_creator audio_track_creator.cpp ../lib/libcommands.a ../lib/libaudiofiles.a
../lib/libapplication.a ApplicationData.o
/usr/bin/ld: ApplicationData.o: in function `ApplicationData::ApplicationData(std::istream&,
std::ostream&)':
ApplicationData.cpp:(.text+0x0): multiple definition of `ApplicationData::ApplicationData(std::istream&,
std::ostream&)'; ../lib/libapplication.a(ApplicationData.o):ApplicationData.cpp:(.text+0x0): first defined
here
```

What's this issue?

make output:

```
make -C program-audio-track-creator all
make[2]: Entering directory 'program-audio-track-creator'
g++ -L ../lib -o audio_track_creator -lcommands -lapplication -laudiofiles
/usr/bin/ld: /usr/lib/gcc/x86_64-linux-gnu/11/../../../../x86_64-linux-gnu/Scrt1.o: in function `_start':
(.text+0x1b): undefined reference to `main'
collect2: error: ld returned 1 exit status
make[2]: *** [Makefile:4: audio_track_creator] Error 1
```

What's this issue?

make output:

```
make -C library-application install
make[2]: Entering directory 'library-application'
make[2]: *** No rule to make target 'install'. Stop.
```

Makefile content:

```
$ cat library-application/Makefile
# Build the library here
# all: libapplication.a
#
# libapplication.a: ApplicationData.o
#     ar crus $@ $^
#
#     ApplicationData.o: ApplicationData.cpp ApplicationData.h
#         g++ -o $@ -c $<
#
#     # Install the library for other parts of the project to use
#     install: ../lib/libapplication.a ../include/ApplicationData.h
#
#     ../lib/libapplication.a: libapplication.a
#         cp $< $@
#
#         ../include/ApplicationData.h: ApplicationData.h
#             cp $< $@
#
#
#     clean:
#         -rm -f *.o libapplication.a
#
```

What's this issue?

make output:

```
g++ -MT test_03_01_ApplicationData.o -MMD -MP -MF .d/test_03_01_ApplicationData.Td -g -Wall -std=c++17 -Wpedantic -Wextra -Werror -I/home/cgl/courses/ut-cs3005-main/ut-cs3005-students-lite/students/cs3005-202520-proj-XYZ/include -c -o test_03_01_ApplicationData.o ../../unit-tests-by-assignment/assignment-03/tests/test_03_01_ApplicationData.cpp
../../unit-tests-by-assignment/assignment-03/tests/test_03_01_ApplicationData.cpp:1:10: fatal error:
ApplicationData.h: No such file or directory
   1 | #include "ApplicationData.h"
     |           ^~~~~~
compilation terminated.
```

Makefile content:

```
$ grep ^all Makefile
all: program-audio-track-creator
$
```

E

What's this issue?

make output:

```
make -C library-commands install
make[2]: Entering directory 'library-commands'
g++ -I ../include -o audio_track_creator_aux.o -c audio_track_creator_aux.cpp
audio_track_creator_aux.cpp: In function 'void rampup_fill_audio_track(ApplicationData&)':
audio_track_creator_aux.cpp:16:17: error: 'class AudioTrack' has no member named 'setSamples'
   16 |     audio_track.setSamples(samples);
      |                   ^~~~~~
audio_track_creator_aux.cpp: In function 'void rampdown_fill_audio_track(ApplicationData&)':
audio_track_creator_aux.cpp:29:17: error: 'class AudioTrack' has no member named 'setSamples'
   29 |     audio_track.setSamples(samples);
      |                   ^~~~~~
audio_track_creator_aux.cpp: In function 'void display_audio_track(ApplicationData&)':
audio_track_creator_aux.cpp:35:54: error: 'class AudioTrack' has no member named 'getSamples'
   35 |     const std::vector<double>& samples = audio_track.getSamples();
      |                                                    ^~~~~~
audio_track_creator_aux.cpp: In function 'int audio_track_creator(ApplicationData&)':
audio_track_creator_aux.cpp:68:21: error: 'class AudioTrack' has no member named 'resize'
```

```
68 |         audio_track.resize(total_samples);
    |         ^~~~~~
make[2]: *** [Makefile:11: audio_track_creator_aux.o] Error 1
```

What's this issue?

test output:

```
[ RUN      ] Questions3Test.questions3Pass
../../unit-tests-by-assignment/assignment-03/tests/test_03_02_Questions3.cpp:34: Failure
Expected equality of these values:
  out_stream.str()
    Which is: "Favorite integer? Favorite double? Favorite word? 1 1.60 hexadecimal\n2 1.60 hexadecimal\n3
1.60 hexadecimal\n"
  expected_output.str()
    Which is: "Favorite integer? Favorite double? Favorite word? 1 1.6 hexadecimal\n2 1.6 hexadecimal\n3
1.6 hexadecimal\n"
With diff:
@@ -1,3 +1,3 @@
-Favorite integer? Favorite double? Favorite word? 1 1.60 hexadecimal
-2 1.60 hexadecimal
-3 1.60 hexadecimal\n
+Favorite integer? Favorite double? Favorite word? 1 1.6 hexadecimal
+2 1.6 hexadecimal
+3 1.6 hexadecimal\n

[ FAILED ] Questions3Test.questions3Pass (0 ms)
```

code listing:

```
app_data.getOutputStream() << i << " "
                          << std::fixed << std::setprecision(2) << fav_double << " "
                          << fav_word << std::endl;
```

What's this issue?

test output:

```
[ RUN      ] Questions3Test.questions3GiveDoubleForInt
../../unit-tests-by-assignment/assignment-03/tests/test_03_02_Questions3.cpp:96: Failure
Expected equality of these values:
  out_stream.str()
    Which is: "Favorite integer? Favorite double? Favorite word? 1 4.60 hexadecimal\n2 4.60 hexadecimal\n3
4.60 hexadecimal\n4 4.60 hexadecimal\n"
  expected_output.str()
    Which is: "Favorite integer? Favorite double? Favorite word? 1 0.6 4.6\n2 0.6 4.6\n3 0.6 4.6\n4 0.6
4.6\n"
With diff:
@@ -1,4 +1,4 @@
-Favorite integer? Favorite double? Favorite word? 1 4.60 hexadecimal
-2 4.60 hexadecimal
-3 4.60 hexadecimal
-4 4.60 hexadecimal\n
+Favorite integer? Favorite double? Favorite word? 1 0.6 4.6
+2 0.6 4.6
+3 0.6 4.6
+4 0.6 4.6\n

[ FAILED ] Questions3Test.questions3GiveDoubleForInt (0 ms)
```

code listing:

```
int ApplicationData::getInteger(const std::string& prompt) {
    mOutputStream << prompt;
    int value;
    mInputStream >> value;
    mInputStream.ignore(std::numeric_limits<std::streamsize>::max(), '\n'); // Clear remaining input
    return value;
}
```

```

double ApplicationData::getDouble(const std::string& prompt) {
    mOutputStream << prompt;
    double value;
    mInputStream >> value;
    mInputStream.ignore(std::numeric_limits<std::streamsize>::max(), '\n'); // Clear remaining input
    return value;
}

std::string ApplicationData::getString(const std::string& prompt) {
    mOutputStream << prompt;
    std::string value;
    std::getline(mInputStream, value); // Use getline to capture entire input
    return value;
}

```

What's this issue?

test output:

```

[ RUN      ] AudioTrackSettersTest.resizeValuesZerosContents
../../unit-tests-by-assignment/assignment-04/tests/test_04_01_AudioTrackSetters.cpp:567: Failure
Expected equality of these values:
  0.0
  Which is: 0
  track_const.getValue(i)
  Which is: 0.5
Index: 0 of 175
[ FAILED   ] AudioTrackSettersTest.resizeValuesZerosContents (0 ms)

```

What's this issue?

test output:

```

[ RUN      ] AudioTrackCreatorTest.audio_track_creatorPrompts
../../unit-tests-by-assignment/assignment-05/tests/test_05_20_AudioTrackCreator.cpp:32: Failure
Expected equality of these values:
  out_stream.str().substr(0, expected_prompts.size())
  Which is: "Samples/Second: Seconds:"
  expected_prompts
  Which is: "Samples/Second: Seconds: "
[ FAILED   ] AudioTrackCreatorTest.audio_track_creatorPrompts (0 ms)

```

What's this issue?

test output:

```

[ RUN      ] AudioTrackCreatorTest.audio_track_creatorAssignsRampupValues
../../unit-tests-by-assignment/assignment-05/tests/test_05_20_AudioTrackCreator.cpp:127: Failure
Expected equality of these values:
  actual_all_increasing
  Which is: false
  expected_all_increasing
  Which is: true
[ FAILED   ] AudioTrackCreatorTest.audio_track_creatorAssignsRampupValues (0 ms)

```

What's this issue?

make output:

```

g++ -MT test_05_10_AudioTrackCreatorRampup.o -MMD -MP -MF .d/test_05_10_AudioTrackCreatorRampup.Td -g -
Wall -std=c++17 -Wpedantic -Wextra -Werror -I/home/cgl/courses/ut-cs3005-main/ut-cs3005-students-
lite/students/cs3005-202520-proj-XYZ/include -c -o test_05_10_AudioTrackCreatorRampup.o ../../unit-
tests-by-assignment/assignment-05/tests/test_05_10_AudioTrackCreatorRampup.cpp
../../unit-tests-by-assignment/assignment-05/tests/test_05_10_AudioTrackCreatorRampup.cpp: In member
function 'virtual void AudioTrackCreatorRampupTest_rampupDoesNotModifySampleCount_Test::TestBody()':
../../unit-tests-by-assignment/assignment-05/tests/test_05_10_AudioTrackCreatorRampup.cpp:27:3: error:
'rampup_fill_audio_track' was not declared in this scope

```

```
27 | rampup_fill_audio_track(app_data);  
   | ^~~~~~
```

code listing:

```
$ cat library-commands/audio_track_creator_aux.h  
#ifndef AUDIO_TRACK_CREATOR_AUX_H  
#define AUDIO_TRACK_CREATOR_AUX_H  
  
#include "../library-application/ApplicationData.h"  
  
class audio_track_creator_aux {  
public:  
    audio_track_creator_aux();  
    void rampup_fill_audio_track(ApplicationData& app_data);  
    void rampdown_fill_audio_track(ApplicationData& app_data);  
    void display_audio_track(ApplicationData& app_data);  
    void fill_audio_track(ApplicationData& app_data);  
    int audio_track_creator(ApplicationData& app_data);  
};  
  
#endif  
$
```

What's this issue?

Test output:

```
session04.in : program output does not match expected output.  
Differences between your program's output and the expected output are displayed below.  
Your program's output lines begin with <. The expected output lines begin with >.  
Output lines that are correct are not shown.  
Lines like 4a3 indicate the difference is on line 4 of your output and line 3 of the expected output.  
  
4,5c4,5  
< 1,0.043478  
< 2,0.086957  
---  
> 1,0.0434783  
> 2,0.0869565
```

code listing:

```
std::string number = std::to_string(app_data.getAudioTrack().getValue(i));
```