7/10/20 Makefile 1

```
Typographical Conventions for Makefile
Normal
                Keyword
                                Comment
                                                 String
                                                                 Variable
                                                                                  Target
                                                                                                  Section
                FuncParam
                                                 Silent
                                                                                                  Builtin
Prereq
                                Operator
                                                                 Special
                                                                                  Error
Number
                Include
                                ControlFlow
                                                 VarModifier
                                                                 RealOperator
                                                                                  SpecialTarget
                                                                                                  SpecialPrereq
Alerts text
                Alert Level 1
Normal Text
                                 Alert Level 2
                                                 Alert Level 3
                                                                 Region Marker
Modelines text
                                Variable
Comment
                Keyword
                                                 Number
                                                                 String
                                                                                  Value
                                                                                                  Option ON
Option OFF
```

```
1 # PRU_CGT environment variable must point to the TI PRU code gen tools directory. E.g.:
2 #(Desktop Linux) export PRU_CGT=/path/to/pru/code/gen/tools/ti-cgt-pru_2.1.2
3 #(Windows) set PRU_CGT=C:/path/to/pru/code/gen/tools/ti-cgt-pru_2.1.2
4 #(ARM Linux*) export PRU_CGT=/usr/share/ti/cgt-pru
5 #
6 # *ARM Linux also needs to create a symbolic link to the /usr/bin/ directory in
7 # order to use the same Makefile
8 #(ARM Linux) ln -s /usr/bin/ /usr/share/ti/cgt-pru/bin
10 ifndef PRU_CGT
11 define ERROR BODY
12
13 *********************************
14 PRU_CGT environment variable is not set. Examples given:
15 (Desktop Linux) export PRU_CGT=/path/to/pru/code/gen/tools/ti-cgt-pru_2.1.2
16 (Windows) set PRU_CGT=C:/path/to/pru/code/gen/tools/ti-cgt-pru_2.1.2
17 (ARM Linux*) export PRU_CGT=/usr/share/ti/cgt-pru
18
19 *ARM Linux also needs to create a symbolic link to the /usr/bin/ directory in
20 order to use the same Makefile
21 (ARM Linux) ln -s /usr/bin/ /usr/share/ti/cgt-pru/bin
23
24 endef
25 $(error $(ERROR_BODY))
26 endif
27
28 MKFILE_PATH := $(abspath $(lastword $(MAKEFILE_LIST)))
29 CURRENT_DIR := $(notdir $(patsubst %/,%,$(dir $(MKFILE_PATH))))
30 PROJ_NAME=$(CURRENT_DIR)
31 INCLUDE=--include_path=../../include
32 GEN_DIR=gen
33
34 #Common compiler flags (Defined in 'PRU Optimizing C/C++ Compiler User's Guide)
35 CFLAGS=-v3 -02 --display error number --endian=little --hardware mac=on --obj directory=$
  (GEN_DIR) --pp_directory=$(GEN_DIR) -ppd -ppa
36
37 TARGET=$(GEN_DIR)/$(PROJ_NAME).lib
38 SOURCES=$(wildcard *.c)
39 #Using .object instead of .obj in order to not conflict with the CCS build process
40 OBJECTS=$(patsubst %,$(GEN_DIR)/%,$(SOURCES:.c=.object))
41
42 all: printStart $(TARGET) printEnd
43
44 printStart:
45
         46
47
         @echo 'Building project: $(PROJ_NAME)'
48
```

```
49 printEnd:
50
         @echo ''
51
         @echo 'Finished building project: $(PROJ_NAME)'
         52
         @echo ''
53
54
55 # Invokes the archiver to make the .lib file
56 $(TARGET): $(OBJECTS)
         @echo ''
57
58
         @echo 'Building target: $@'
59
         @echo 'Invoking: PRU Archiver'
60
         $(PRU_CGT)/bin/arpru r $(TARGET) $(OBJECTS)
61
         @echo 'Finished building target: $@'
         @echo ''
62
         @echo 'Output files can be found in the "$(GEN_DIR)" directory'
63
64
65 # Invokes the compiler on all c files in the directory to create the object files
66 $(GEN_DIR)/%.object: %.c
67
         @mkdir -p $(GEN_DIR)
         @echo ''
68
69
         @echo 'Building file: $<'</pre>
70
         @echo 'Invoking: PRU Compiler'
71
         $(PRU_CGT)/bin/clpru --include_path=$(PRU_CGT)/include $(INCLUDE) $(CFLAGS) -fe $@ $<</pre>
72
73 .PHONY: all clean
74
75 # Remove the $(GEN_DIR) directory
76 clean:
         @echo ''
77
         78
79
         @echo 'Cleaning project: $(PROJ_NAME)'
         @echo ''
80
81
         @echo 'Removing files in the "$(GEN DIR)" directory'
82
         @rm -rf $(GEN_DIR)
         @echo ''
83
84
         @echo 'Finished cleaning project: $(PROJ_NAME)'
         85
         @echo ''
86
87
88 # Includes the dependencies that the compiler creates (-ppd and -ppa flags)
89 -include $(OBJECTS:%.object=%.pp)
90
91
```