

## CS 4301 - Inserting Debug Statements Selectively

- The source code is shown below.

```
5. #include <iostream>
   #include <string>

   using namespace std;

   void ProgStmt();
   string token;

   int main()
10. {
   #ifdef DEBUG
       cout << "DEBUG: In function main()" << endl;
   #endif

   15.   token = "program";

       cout << "In function main(): token = " << token << endl;
       ProgStmt();

   20.   return 0;
   }

   void ProgStmt()
   {
25. #ifdef DEBUG
       cout << "DEBUG: In function ProgStmt()" << endl;
       cout << "DEBUG: In function ProgStmt(): token = " << token << endl;
   #endif

   30.   cout << "In function ProgStmt(): token = " << token << endl;

       return;
   }
```

- The commands to compile, link, and run this code without including the debug output statements are shown below. I used the standard Makefile and included a target of debug on targets1srcfile.

```
mmotl@csunix ~/public_html/4301/examples> make debug
g++ -g -Wall -std=c++11 -c debug.cpp -I/usr/local/4301/include -I.
g++ -o debug debug.o -L/usr/local/4301/lib -lm
mmotl@csunix ~/public_html/4301/examples> ./debug
5. In function main(): token = program
   In function ProgStmt(): token = program
mmotl@csunix ~/public_html/4301/examples>
```

- The commands to compile, link, and run this code including the debug output statements are shown below. I used the standard Makefile and included a target of debug on targets1srcfile. To define the symbol DEBUG, use the -D option and modify the CFLAGS settings.

```
mmotl@csunix ~/public_html/4301/examples> make debug "CFLAGS = -g -Wall -std=c++11 -DDEBUG"
g++ -g -Wall -std=c++11 -DDEBUG -c debug.cpp -I/usr/local/4301/include -I.
g++ -o debug debug.o -L/usr/local/4301/lib -lm
mmotl@csunix ~/public_html/4301/examples> ./debug
5. DEBUG: In function main()
   In function main(): token = program
   DEBUG: In function ProgStmt()
   DEBUG: In function ProgStmt(): token = program
```

```
In function ProgStmt(): token = program  
10. mmotl@csunix ~/public_html/4301/examples>
```

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