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1  #include <iostream>
2  void EndMessage(); // Some prototype – ignore if
   • you are reading notes.
3  // Example function
4  void Print(int count, char ch) {
5      using namespace std;
6      for (int i = 0; i < count; ++i) {
7          cout << ch;
8      }
9      cout << endl;
10 }
11
12 // Invoke this function in main() using a normal
   • function call
13 int main() {
14     Print(5, '#');
15     return 0;
16 }
17
18 // Invoking the function through a function
   • pointer
19 int main(){
20     void (*Print_ptr)(int, char) = &Print;
21     // Note that the NAME of the function is the
   • address of the function, and Print_ptr is a
   • function pointer variable, so we initialise
   • the function pointer variable with the
   • address of the function.
22     // The ampersand is hence optional.
23     void (*Print_ptr)(int, char) = Print; // this
   • works too!
24
25     // Invoking the function
26     (*Print_ptr)(5, '#'); // this works
27     Print_ptr(5, '#'); // this works – as if the
   • function pointer is a normal function.
28     // So, you see that we don't depend on the
   • name of the function to call the function

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•         name of the function to call the function,
29
30
31     /// Applications of Function pointers:
•         atexit()
32     // You are allowed to invoke some function in
•         your program just before it terminates. So
•         we'll use atexit() to print a message just
•         before the program exits.
33     //atexit(function ADDRESS) --> is the syntax
•         for the function call.
34     atexit(EndMessage); // see definition below
35     // So this function atexit registers the
•         pointer to the function internally, and the
•         function pointer is invoked after main().
•         So it doesn't matter where you define
•         atexit.
36 }
37
38 // function that Atexit calls:
39 void EndMessage(){
40     using namespace std;
41     cout << "End of program" << endl;
42 }
43

```