

```
1 #include "PrintModule.h"
2
3 static string _PrintModule = RegisterPlugin("Print", new PrintModule());
4
5 PrintModule::PrintModule() {}
6
7 CASP_Return* PrintModule::Execute(Markup* markup, LanguageDescriptorObject* source_ldo, vector<arg> fnArgs, CASP_Return* inputReturn) {
8     returnData = (inputReturn != NULL ? inputReturn : new CASP_Return());
9
10    markup->Print();
11
12    Tree* outputTree = GenerateTree(markup);
13    returnData->Data()->Add("ParseTree", outputTree->Output());
14
15    return returnData;
16
17 }
18
19 Tree* PrintModule::GenerateTree(Markup* m) {
20     vector<Markup*> children = m->Children();
21     Tree* t = new Tree();
22     t->Title = m->GetID();
23
24     if (children.size() > 0) {
25         for (int i = 0; i < children.size(); i++) {
26             t->Children.push_back(GenerateTree(children[i]));
27         }
28     } else {
29         t->Data = m->GetData();
30     }
31
32     return t;
33 }
34
35
36 GenericObject* Tree::Output() {
37
38     GenericArray* children = new GenericArray();
39
40     for (int i = 0; i < Children.size(); i++) {
41         children->Add(Children[i]->Output());
42     }
43
44     return new GenericObject({
45         {"Data", CreateLeaf(Data)},
46         {"Title", CreateLeaf(Title)},
47         {"Children", children}
48     });
49
50 }
```