```
1 class System {
1 class System {
                                                STATE MACHINE (Machine) {
   STATE MACHINE (Machine) {
                                                 INITIAL STATE(S1,S1 entry,S1 exit,NULL){
   INITIAL STATE(S1,S1 entry,S1 exit,NULL){
                                                  INITIAL(Initial1);
     INITIAL(Initial1);
                                                  STATE (S11, S11 entry, S11 exit) {
     STATE (S11, S11 entry, S11 exit) {
                                                   STATE (S111, S111 entry, S111 exit);
      STATE (S111, S111 entry, S111 exit);
                                                  };
     };
                                                  CHOICE (c1);
     CHOICE (c1);
     EXIT POINT (ex1);
                                                 };
                                                 STATE(S2, S2 entry, S2 exit) {
    };
                                             11 DEEP HISTORY (dh1);
11 STATE(S2, S2 entry, S2 exit) {
                                                  STATE (S21, S21 entry, S21 exit) {
     SHALLOW HISTORY (h1);
                                                  STATE (S211, S211 entry, S211 exit);
13 STATE (S21, S21 entry, S21 exit);
     FINAL STATE (S2 final);
                                                  };
15 };
                                             15 };
                                                 FINAL STATE(FinalState1);
    STATE (S3, S3 entry, S3 exit);
                                             17 //Event table definitions
17 FINAL STATE (FinalState1);
    //Event table definitions
                                                 //Transition table
19 //Transition table
                                             19 TRANSITION TABLE {
                                                  TRANSITION (S111, c1, NULL, NULL, NULL);
    TRANSITION TABLE {
                                                  TRANSITION (c1, dh1, NULL, NULL, NULL);
21 TRANSITION (S111, c1, NULL, NULL, NULL);
                                                  TRANSITION (c1, FinalState1, NULL, NULL, NULL);
     TRANSITION (c1, ex1, NULL, NULL, NULL);
23 TRANSITION (c1,S3,NULL,NULL,NULL);
                                             23 }
                                                };
25 };
                                             25 void S1 entry() {
                                                 //Entry action for S1
  void S1 entry() {
27 //Entry action for S1
                                             27 }
                                                //...
                                             29 //class member declarations
29 //...
                                              };
   //class member declarations
                                             31
31};
```