```
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) {
                                                 deep history(dh1);
   state(S2, S2 entry, S2 exit) {
                                                 state(S21, S21 entry, S21 exit) {
     shallow history(h1);
    state(S21, S21 entry, S21 exit);
                                                  state(S211, S211 entry, S211 exit);
    final_state(S2 final);
                                                 };
15 };
                                            15 };
                                                final state(FinalState1);
    state(S3, S3 entry, S3 exit);
                                            17 //Event table definitions
17 final state (FinalState1);
                                                //Transition table
    //Event table definitions
                                            19 transition table {
19 //Transition table
                                                 transition(S111,C1,NULL,NULL,NULL);
    transition table {
                                                 transition(c1,dh1,NULL,NULL,NULL);
    transition(S111,C1,NULL,NULL,NULL);
                                                 transition(c1,FinalState1,NULL,NULL,NULL);
     transition(c1,ex1,NULL,NULL,NULL);
    transition(c1,S3,NULL,NULL,NULL);
                                            23 }
                                               };
                                            25 void S1 entry() {
25 };
                                                //Entry action for S1
  void S1 entry() {
27 //Entry action for S1
                                            27 }
                                               //...
                                            29 //class member declarations
29 //...
   //class member declarations
                                              };
                                            31
31};
```