



```

1. class System {
2. public:
3.     Producer p;
4.     Consumer c;
5.     FIFO fifo;
6.     void configuration() {
7.         bindPorts(p.pPush, fifo.pPush);
8.         bindPorts(c.pPull, fifo.pPull);
9.     }
10. }
11. class IPull {
12. public:
13.     virtual Data* pull() = 0;
14. }
15. class IPush {
16. public:
17.     virtual void push(Data& data) = 0;
18. }
19. class Producer {
20. public:
21.     RequiredPort<IPush> pPush;
22. };
23. class Consumer {
24. public:
25.     RequiredPort<IPull> pPull;
26. };
27. class FIFO : public IPush, IPull {
28. public:
29.     ProvidedPort<IPush> pPush;
30.     ProvidedPort<IPull> pPull;
31.     Data* pull() { //fine-grained code }
32.     void push(Data& data) { //.. }
33.     //attributes + methods...
  
```

```

34. StateMachine FIFOMachine {
35.     InitialState Idle;
36.     State SignalChecking {
37.         StateEntry entryCheck;
38.         StateExit exitCheck;
39.     };
40.     State ErrorNotification {
41.         StateEntry entryError;
42.     };
43.     State DataQueuing {
44.         StateEntry entryQueue;
45.         PseudoChoice queueChoice;
46.         State Queuing;
47.     };
48.     State Discarding;
49.     PseudoChoice dataChoice;
50.     CallEvent(DataPushEvent, push(Data&));
51.     TransitionTable {
52.         ExT(Idle, SignalChecking,
53.             DataPushEvent, NULL, signalCheck);
54.         ExT(SignalChecking, dataChoice,
55.             NULL, NULL, NULL);
56.         ExT(dataChoice, queueChoice,
57.             NULL, Valid, NULL);
58.     }
59. };
60. void entryCheck() { //fine-grained code }
61. void exitCheck() { //fine-grained code }
62. void entryError() { //fine-grained code }
63. void signalCheck(Data& item) {
64.     //trans effect from Idle to SignalChecking
65. }
66. }
  
```