

region "Core-SCCharts":



Core SCCharts
Small set of simple features
eases down-stream compilation



Extended SCCharts
Rich set of advanced
features eases modeling

```
scchart SCCharts_Overview {
  input bool b;
  input output int x;
  output float y = 0.0;
  ...
}
```

```
--> B immediate
with x < 0 / x = 0;
```

Interface declaration

input bool b
input output int x
output float y = 0.0

Region ID

[-] Core-SCCharts

Transition trigger/effect

2: x < 0 / x = 0

Immediate transition

1: b / y = f(x)

initial state A ""

Initial state



Host Code

```
--> M1 with b / y = 'f(x)'
--> B immediate
with x < 0 / x = 0;
```

Transition priority

```
connector state G ""
--> N1 history with y > -10
--> N2 immediate;
```

Connector

History transition

```
--> G with 5 b;
```

Count delay

```
final state I ""
--> H;
```

Complex final state

Conditional termination

Strong abort

Deferred transition

Suspension

```
...
}
o-> N2 with y > 0
--> N2 deferred with x <= 0
--> F with y == 0;
```

```
state N1 {
  suspend y > 10;
  weak suspend y > 0;
  ...
}
```

```
state N2 {
  ...
}
--> F;
```

Root state

Local declaration

Superstate

Termination

Anonymous simple state

Named simple state

Final state

Signal

Initialization

Entry/During/Exit actions

Pre operator

Weak abort

```
state M2 {
  bool local;
  region "Region2":
  ...
  region "Region1":
  ...
}
--> E;
```

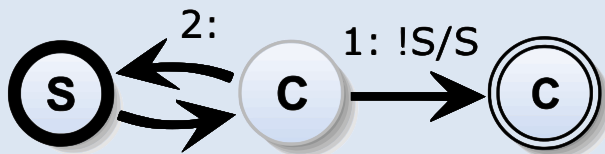
```
state E ""
--> E;
```

```
initial state S1
--> S2 with local;
```

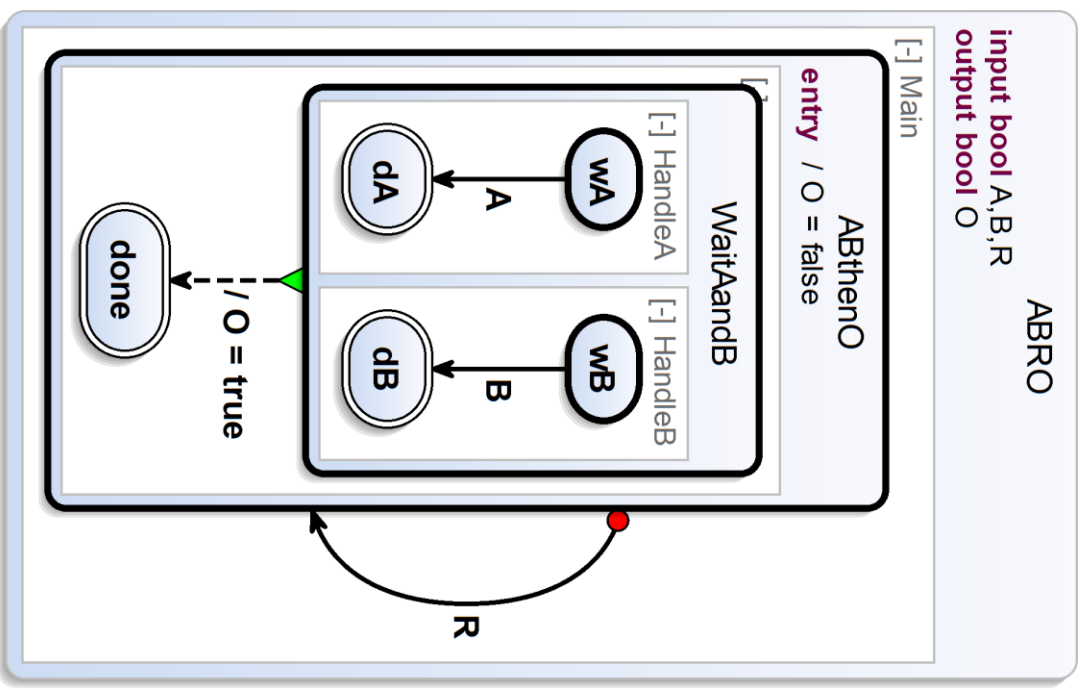
```
final state S2;
```

```
entry / b = false;
immediate during / b = true;
during x < 0 / s;
exit / y = x;
```

```
--> L with pre(s);
```

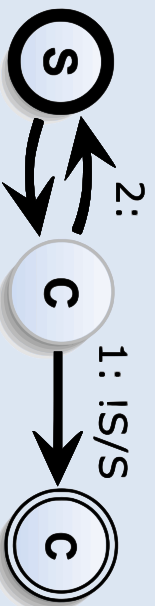


SCCharts Cheat Sheet



```

@diagram[KlayLayered] false
@HVLLayout
scchart ABRO {
  input bool A, B, R;
  output bool O;
  region Main:
    initial state ABO "ABtheno" {
      entry / O = false;
    }
    initial state WaitandB {
      region HandleA:
        initial state WA
        --> dA with A;
        final state dA;
      region HandleB:
        initial state WB
        --> dB with B;
        final state dB;
    }
    --> done with / O = true;
  }
  final state done;
}
o-> ABO with R;
}
  
```



SCCharts Cheat Sheet