```
∧ senderState = "WAITING"
        \land ackWireIn = <<>>
       \(\lambda\) ackWireOut = <<>>
       \land dataWireOut = <<>>
               \wedge n = 0
       \land dataWireIn = <<>>
          \land output = <<>>
          \land ackSegNum = 0
           \land senderIdx = 1
          \land buffer = <<>>
\land senderPc = [ SendSynAck |-> "A S",
             ACK |-> "A",
            SynAck |-> "A ",
      ReceiveButFirst |-> "A R",
           Sender |-> "A s" ]
    ∧ receiverState = "W̄AITING"
```

```
\( \text{senderState} = \text{"WAITING"} \\ \text{ackWireIn} = \leq \leq \rightarrow \\ \text{ackWireOut} = \leq \leq \rightarrow \\ \text{dataWireOut} = \leq \leq \rightarrow \\ \text{n} = 1 \\ \text{dataWireIn} = \leq \leq \rightarrow \\ \text{ackSeqNum} = 0 \\ \text{\senderIdx} = 1 \\ \text{\senderIdx} = 1 \\ \text{\senderIdx} = \leq \leq \rightarrow \\ \text{senderPc} = \left[ \text{SendSynAck} \right| -> \text{"A_S",} \\ \text{\sender} \rightarrow \\ \text{SynAck} \right| -> \text{"A_",} \\ \text{\sender} \right| \rightarrow \\ \text{Sender} \right| -> \text{"A_R",} \\ \text{\sender} \right| \rightarrow \\ \text{receiverState} = \text{"WAITING"} \end{arrow}
```

```
∧ senderState = "WAITING"
        \land ackWireIn = <<>>
       \land ackWireOut = <<>>
       \(\lambda\) dataWireOut = <<>>
               \wedge n = 2
        \land dataWireIn = <<>>
          ∧ output = <<>>
          \Lambda ackSegNum = 0
           \land senderIdx = 1
          \land buffer = <<1>>
\land senderPc = [ SendSynAck |-> "A_S",
             ACK |-> "A",
            SynAck |-> "A_",
      ReceiveButFirst |-> "A R",
           Sender |-> "A s" ]
    ∧ receiverState = "W̄AITING"
```

```
∧ senderState = "WAITING"
        \land ackWireIn = <<>>
       ∧ ackWireOut = <<>>
       \(\lambda\) dataWireOut = <<>>
               \wedge n = 3
       \land dataWireIn = <<>>
          ∧ output = <<>>
          \Lambda ackSegNum = 0
          \land senderIdx = 1
        \land buffer = <<1, 2>>
\land senderPc = [SendSynAck |-> "A S",
             ACK |-> "A",
           SynAck |-> "A_",
      ReceiveButFirst |-> "A R",
           Sender |-> "A s" ]
    ∧ receiverState = "WAITING"
```