Pseudo-code design of Traffic Survey IMPORT procedure

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Initialise:
    ID = 0; Day = 1; Line = 1; NewState = IDLE; LastTime = 0
    DT1 = 5; DT2 = 75; DT3 = 1500
Process lines:
    Readline for  (detector,timestamp) until EOF
    If  timestamp < LastTime then Day = Day+1
    DeltaT = (timestamp-LastTime) modulo 86400000
    LastTime = timestamp
    State = NewState
    NewState = ERROR

    Case of State:
        IDLE:
            If detector == A
                StartTimeDOWN = timestamp
                DayDOWN = Day
                NewState = DOWN_1
            Break
        DOWN_1:
            If detector == A
                If DeltaT < DT1
                    StartTimeUP = timestamp
                    DayUP = Day
                    NewState = CC_1
                Else if DeltaT < DT2
                    StartTimeUP = timestamp
                    NewState = OL2_1
                Else if DeltaT < DT3
                    CreateRecord( DOWN, ID++, DayDOWN,timestamp,StartTimeDOWN)
                    NewState = IDLE
            Else If detector == A && DeltaT < DT1
                    StartTimeUP = timestamp
                    DayUP = Day
                    NewState = UP_1
            Break
        UP_1:
            If detector == A
                If DeltaT < DT1
                    NewState = CC_2
                Else if DeltaT < DT2
                    NewState = OL1_1
                Else if DeltaT < DT3
                    NewState = UP_2
            Break
        UP_2:
            If detector == B &&  DeltaT < DT1
                CreateRecord( UP, ID++, DayUP,timestamp,StartTimeUP)
                NewState = IDLE
            Break
```

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OL1_1:
        If detector == A
                NewState = OL1_2
        Break
OL1_2:
        If detector == B &&  DeltaT < DT1
                CreateRecord( UP, ID++, DayUP,timestamp,StartTimeUP)
                NewState = DOWN_2
        Break
OL2_1:
        If detector == B &&  DeltaT < DT1
                NewState = OL2_2
        Break
OL2_2:
        If detector == A &&  DeltaT >= DT1
                If  DeltaT < DT2
                        CreateRecord( DOWN, ID++, DayDOWN,timestamp,StartTimeDOWN)
                        NewState = OL2_3A
                Else if DeltaT < DT3
                        NewState = OL2_3B
        Break
OL2_3A:
        If detector == A &&  DeltaT >= DT1 &&   DeltaT < DT2
                NewState = UP_2
        Break
OL2_3B:
        If detector == A &&  DeltaT < DT1
                CreateRecord( DOWN, ID++, DayDOWN,timestamp,StartTimeDOWN)
                NewState = UP_2
        Else if detector == B && DeltaT < DT1
                CreateRecord( UP, ID++, DayUP,timestamp,StartTimeUP)
                NewState = OL2_5
        Break
OL2_5:
        If detector == A &&  DeltaT < DT1
                CreateRecord( DOWN, ID++, DayDOWN,timestamp,StartTimeDOWN)
                NewState = IDLE
        Break
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            CC_1:
                If detector == B &&  DeltaT < DT1
                    NewState = CC_2
                Break
            CC_2:
                If detector == A &&  DeltaT >= DT2 && DeltaT < DT3
                    NewState = CC_3
                Break
            CC_3:
                If detector == A
                    CreateRecord( DOWN, ID++, DayDOWN,timestamp,StartTimeDOWN)
                    NewState = UP_2
                Else if detector == B && DeltaT < DT1
                    CreateRecord( UP, ID++, DayUP,timestamp,StartTimeUP)
                    NewState = DOWN_2
                Break
            DOWN_2:
                If detector == A
                    CreateRecord( DOWN, ID++, DayDOWN,timestamp,StartTimeDOWN)
                    NewState = IDLE
                Break
        End Case

        If NewState == ERROR
            LogInvalidSequence()
            NewState = IDLE
        End if

End processing

Function CreateRecord( Direction, ID, Day,EndTime,StartTime)
        Duration = (EndTime – StartTime ) modulo 86400000
        Speed Kmh = ( 2.5/1000 ) / ( Duration /3600000 )   [  =  (2.5*3600) / Duration  ]

        Print ID, Day, Time, Direction, Speed to CSV file (or insert in SQL database)
```