```
'CR3000 Series Datalogger

'Declare Public Variables

Public PTemp_C
Public relayset(16)
Public CO2(20)
Public O2(20)
Dim j
Public AirTemp
Public SoilTemp
Public ChamberNumber As Long
Public S_Scans

'Create boolean variables for do/don't do logic
Public SampleNow As Boolean


'Declare Units
Units PTemp_C=Deg C
Units CO2=Volts
Units O2=Volts
Units AirTemp=Deg C
Units SoilTemp=Deg C

'Define Data Tables
DataTable (MasterTB,1,-1)
  DataInterval (0,5,min,10)
  Sample (1,ChamberNumber,Long)
  Average (1,PTemp_C,FP2,False)
  Sample (20,CO2(),FP2)
  Sample (20,O2(),IEEE4)
  Sample (1,AirTemp,FP2)
  Sample (1,SoilTemp,FP2)
EndTable

Sub SampleNow
  For j = 1 To 20
    VoltDiff (O2(j),1,mV5000,1,True ,0,_60Hz,0.005,0)
    VoltDiff (CO2(j),1,mV5000,2,True,0,_60Hz,.4,0)
    Delay (0,12,sec)
  Next j
EndSub

'Main Program
BeginProg
  Scan (1,min,0,0)
    PanelTemp (PTemp_C,_60Hz)
 'Relay sequencing section
  If  TimeIntoInterval (0,30,min)  Then
   relayset(6) = false.....chamber 6 opens
   relayset(12) = false.....sample intake 6 closes
   relayset(7) = true.....sample intake 1 opens
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```
 TCDiff (AirTemp,1,mV20c,13,TypeT,PTemp_C,True,0,_60Hz,1,0).....chamber 6 air temp
 TCDiff (SoilTemp,1,mV20c,14,TypeT,PTemp_C,True,0,_60Hz,1,0).....chamber 6 soil temp
EndIf

If TimeIntoInterval (1,30,min)  Then
    relayset(1) = true.....chamber 1 closes
    ChamberNumber = 1.....chamber number 1 recorded
 EndIf

If TimeIntoInterval (5,30,min)  Then
    relayset(1) = false.....chamber 1 opens
    relayset(7) = false.....sample intake 1 closes
    relayset(8) = true.....sample intake 2 opens
    TCDiff (AirTemp,1,mV20c,3,TypeT,PTemp_C,True,0,_60Hz,1,0).....chamber 1 air temp
    TCDiff (SoilTemp,1,mV20c,4,TypeT,PTemp_C,True,0,_60Hz,1,0).....chamber 1 soil temp
EndIf

 If TimeIntoInterval (6,30,min)  Then
    relayset(2) = true  'Chamber 2 closes
    ChamberNumber = 2
  EndIf

  If  TimeIntoInterval (10,30,min)  Then
    relayset(2) = false  'Chamber 2 opens
    relayset(8) = false  'Intake 2 closes
    relayset(9) = true  'Intake 3 opens
    TCDiff (AirTemp,1,mV20c,5,TypeT,PTemp_C,True ,0,_60Hz,1,0)
    TCDiff (SoilTemp,1,mV20c,6,TypeT,PTemp_C,True ,0,_60Hz,1,0)
  EndIf

  If TimeIntoInterval (11,30,min)  Then
    relayset(3) = true  'Chamber 3 closes
    ChamberNumber = 3
  EndIf

  If  TimeIntoInterval (15,30,min)  Then
    relayset(3) = false  'Chamber 3 opens
    relayset(9) = false  'Intake 3 closes
    relayset(10) = true  'Intake 4 opens
    TCDiff (AirTemp,1,mV20c,7,TypeT,PTemp_C,True ,0,_60Hz,1,0)
    TCDiff (SoilTemp,1,mV20c,8,TypeT,PTemp_C,True ,0,_60Hz,1,0)
  EndIf

  If TimeIntoInterval (16,30,min)  Then
    relayset(4) = true  'Chamber 4 closes
    ChamberNumber = 4
  EndIf

  If  TimeIntoInterval (20,30,min)  Then
    relayset(4) = false  'Chamber 4 opens
    relayset(10) = false  'Intake 4 closes
    relayset(11) = true  'Intake 5 opens
    TCDiff (AirTemp,1,mV20c,9,TypeT,PTemp_C,True ,0,_60Hz,1,0)
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      TCDiff (SoilTemp,1,mV20c,10,TypeT,PTemp_C,True ,0,_60Hz,1,0)
    EndIf

    If TimeIntoInterval (21,30,min)  Then
      relayset(5) = true  'Chamber 5 closes
      ChamberNumber = 5
    EndIf

    If  TimeIntoInterval (25,30,min)  Then
      relayset(5) = false  'Chamber 5 opens
      relayset(11) = false  'Intake 5 closes
      relayset(12) = true  'Intake 6 opens
      TCDiff (AirTemp,1,mV20c,11,TypeT,PTemp_C,True ,0,_60Hz,1,0)
      TCDiff (SoilTemp,1,mV20c,12,TypeT,PTemp_C,True ,0,_60Hz,1,0)
    EndIf

    If TimeIntoInterval (26,30,min)  Then
      relayset(6) = true  'Chamber  closes
      ChamberNumber = 6
    EndIf

    SDMCD16AC (relayset(),1,0)


'Sample Subroutine

  If  TimeIntoInterval (1,30,min)  Then Call SampleNow.....sample from Chamber 1
  If  TimeIntoInterval (6,30,min)  Then Call SampleNow..... sample from Chamber 2
  If  TimeIntoInterval (11,30,min)  Then Call SampleNow.....sample from Chamber 3
  If  TimeIntoInterval (16,30,min)  Then Call SampleNow.....sample from Chamber 4
  If  TimeIntoInterval (21,30,min)  Then Call SampleNow.....sample from Chamber 5
  If  TimeIntoInterval (26,30,min)  Then Call SampleNow.....sample from Chamber 6

  S_Scans = status.skippedscan(1,1)

    CallTable(MasterTB)

   SetStatus ("skippedscan",0)

  NextScan
EndProg
```