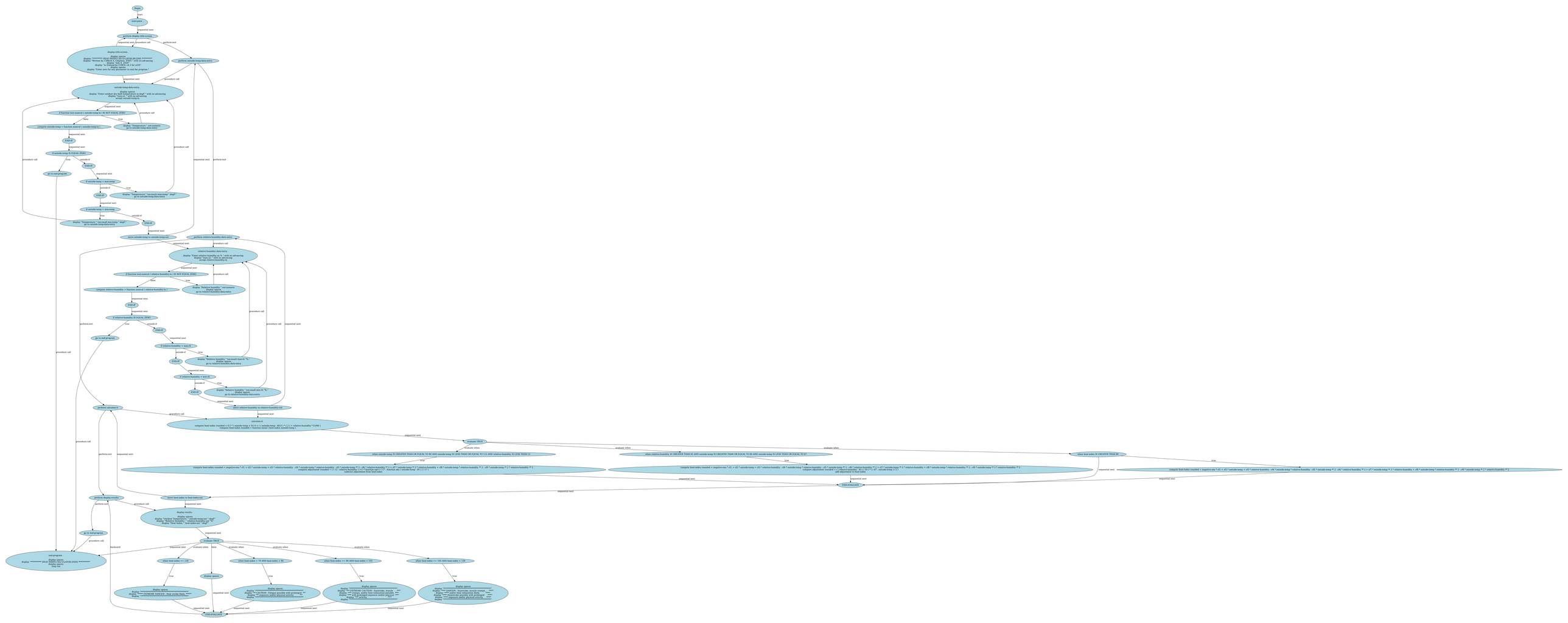
Begin
open
main-para
sequential next
perform: display-title-screen
sequential next
procedure call
perform-exit
display-title-screen
display "========== HEAT INDEX ACOB BEGINS =========="
display "Written by, Clifford A. Chapman, EMT" with no advancing
display "on February 5,2021"
display "in Enterprise Linux, v8.3 for arM"
display "Enter zero for any parameter to end the program."
perform: outside-temp-data-entry
sequential next
procedure call
outside-temp-data-entry
display spaces
display "Enter outdoor dry bulb temperature in degF " with no advancing
display "(Example: 98 for 98 degF) : "
accept outside-temp-in
sequential next
procedure call
if function test-numval (outside-temp-in) IS NOT EQUAL ZERO
false
true
compute outside-temp = function numval (outside-temp-in)
display "Temperature " not numeric
go to outside-temp-data-entry
sequential next
procedure call
END-IF
sequential next
if outside-temp IS EQUAL ZERO
true
procedure call
END-IF
sequential next
go to end-program
if outside-temp < min-temp
outside-if
true
END-IF
sequential next
display "Temperature " too much min-temp " degF"
go to outside-temp-data-entry
if outside-temp > min-temp
true
outside-if
END-IF
sequential next
display "Temperature " too small min-temp " degF"
go to outside-temp-data-entry
sequential next
procedure call
move outside-temp-in outside-temp-out
sequential next
perform: relative-humidity-data-entry
procedure call
relative-humidity-data-entry
display "Enter relative humidity (as %, with no advancing
display "(Example: 55 for 55 %) : "
accept relative-humidity-in
sequential next
procedure call
if function test-numval (relative-humidity-in) IS NOT EQUAL ZERO
false
true
compute relative-humidity = function numval (relative-humidity-in)
display "Relative humidity " not numeric
go to relative-humidity-data-entry
sequential next
END-IF
sequential next
if relative-humidity IS EQUAL ZERO
true
perform-exit
END-IF
sequential next
go to end-program
if relative-humidity > max-rh
true
outside-if
END-IF
sequential next
display "Relative humidity " too much max-rh "%."
display spaces
go to relative-humidity-data-entry
if relative-humidity < min-rh
true
outside-if
END-IF
sequential next
display "Relative humidity " too small min-rh "%."
display spaces
go to relative-humidity-data-entry
sequential next
procedure call
move relative-humidity to relative-humidity-out
sequential next
procedure call
calculate-it
sequential next
procedure call
perform-exit
compute heat-index rounded = 0.5 * (outside-temp + 61.0 + ((outside-temp - 68.0) * 1.2) + (relative-humidity * 0.094))
compute heat-index rounded = function mean (heat-index outside-temp)
sequential next
evaluate TRUE
evaluate when
evaluate when
evaluate when
when outside-temp IS GREATER THAN OR EQUAL TO 80 AND outside-temp IS LESS THAN OR EQUAL TO 112 AND relative-humidity IS LESS THAN 13
true
when relative-humidity IS GREATER THAN 85 AND outside-temp IS GREATER THAN OR EQUAL TO 80 AND outside-temp IS LESS THAN OR EQUAL TO 87
true
when heat-index IS GREATER THAN 92
true
compute heat-index rounded = negative-one * (-42.4 + (2.04 * relative-humidity) + (10.14 * outside-temp) - (.22 * relative-humidity * outside-temp) - (.00683 * outside-temp ** 2) - (.05481 * relative-humidity ** 2) + (.00122 * outside-temp ** 2 * relative-humidity) + (.00085 * outside-temp * relative-humidity ** 2) - (.00199 * outside-temp ** 2 * relative-humidity ** 2))
compute adjustment rounded = ((13 - relative-humidity) / 4) * function sqrt ((17 - function abs (outside-temp - 95)) / 17)
subtract adjustment from heat-index
compute heat-index rounded = negative-one * (42 + (2.04 * relative-humidity) + (10.14 * outside-temp) - (.22 * relative-humidity * outside-temp) - (.00683 * outside-temp ** 2) - (.05481 * relative-humidity ** 2) + (.00122 * outside-temp ** 2 * relative-humidity) + (.00085 * outside-temp * relative-humidity ** 2) - (.00199 * outside-temp ** 2 * relative-humidity ** 2))
compute adjustment rounded = ((relative-humidity - 85) / 10) * ((87 - outside-temp) / 5)
add adjustment to heat-index
sequential next
END-EVALUATE
sequential next
compute heat-index rounded = negative-one * (42 + (2.04 * outside-temp) + (10.14 * relative-humidity) - (.22 * outside-temp * relative-humidity) - (.00683 * outside-temp ** 2) - (.05481 * relative-humidity ** 2) + (.00122 * outside-temp ** 2 * relative-humidity) + (.00085 * outside-temp * relative-humidity ** 2) - (.00199 * outside-temp ** 2 * relative-humidity ** 2))
sequential next
END-EVALUATE
sequential next
move heat-index to heat-index-out
sequential next
perform: display-results
procedure call
perform-exit
display-results
display spaces
display "Outdoor Temperature " outside-temp-out " degF"
display "Relative Humidity: " relative-humidity-out "%"
display "Heat Index: " heat-index-out " degF"
go to end-program
sequential next
evaluate TRUE
evaluate when
evaluate when
evaluate when
evaluate when
evaluate when
backward
when heat-index >= 130
true
display spaces
display "********** HEAT INDEX ACOB ENDS **********"
display spaces
stop run
when heat-index >= 105 AND heat-index < 130
true
display spaces
display "*** EXTREME DANGER - Heat stroke likely ***"
display "*** Avoid strenuous activity outdoors ***"
display "*** Stay indoors in air-conditioning ***"
when heat-index >= 90 AND heat-index < 105
true
display spaces
display "*** CAUTION - Prolong exposure and strenuous activity ***"
display "*** may cause heat stroke ***"
when heat-index >= 80 AND heat-index < 90
true
display spaces
display "*** EXTREME CAUTION - Sunstroke, muscle cramps, ***"
display "*** and/or heat exhaustion possible with prolonged ***"
display "*** exposure and/or strenuous activity ***"
when heat-index < 80
true
display spaces
display "*** CAUTION - Sunstroke, muscle cramps, ***"
display "*** and/or heat exhaustion possible with prolonged ***"
display "*** exposure and/or physical activity ***"
END-EVALUATE
sequential next
END-EVALUATE
sequential next
END-EVALUATE
sequential next
END-EVALUATE
sequential next