Final Report: Code - Supercomputing Challenge

This code is also on the Final Report. To see how this code works please copy and paste it into wherever you do your coding. (I used Replit)
Please note that indents in Python are merely spaces on this document.

```
# Supercomputing Challenge: Smart Jacket         - Paul Kotze
# I will use Fahrenheit as it is more commonly used in the United States

#everything is in a loop because the simulation will run constantly
while 1==1:
  extTemp = float(input("In degrees Fahrenheit, what is the temperature at the external sensor? "))
  neckLTemp = float(input("In degrees Fahrenheit, what is the temperature at the left neck sensor? "))
  neckRTemp = float(input("In degrees Fahrenheit, what is the temperature at the right neck sensor? "))
  frontLTemp = float(input("In degrees Fahrenheit, what is the temperature at the left front sensor? "))
  frontRTemp = float(input("In degrees Fahrenheit, what is the temperature at the right front sensor? "))
  backTemp = float(input("In degrees Fahrenheit, what is the temperature at the back sensor? "))
  wristLTemp = float(input("In degrees Fahrenheit, what is the temperature at the left wrist sensor? "))
  wristRTemp = float(input("In degrees Fahrenheit, what is the temperature at the right wrist sensor? "))

  #this adds a line for comfortable reading
  print(" ")

  #this asks the user what their preferred average body temperature is
  prefTemp = float(input("What is your preferred average body temperature? (90 to 100)"))

  #this calculates the average body temperature
  bodyAv = ((neckLTemp + neckRTemp )/2 + (wristLTemp + wristRTemp)/2 + frontLTemp + frontRTemp + backTemp)/5

  #this adds a line for comfortable reading
  print("")

  #this asks the user if they want to have all the heaters on or off for a short period
  #of time or if they want it to be automatically heated
  pref = int(input("Do you want heating to be on (1), off (2), automatic in certain areas(3) or automatic to your average temperature preference (4) ?"))
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  if pref == 1 :
    print("HEAT: all heaters")
  if pref == 2 :
    print("NO HEAT: all heaters")
  if pref == 3 :
    #these if statements will determine if certain heaters are     heating or not
    if neckLTemp < 95.5 or frontLTemp < 95:
      print("HEAT: Left front heater")
    else:
      print("NO HEAT: Left front heater")
    if neckRTemp < 95.5 or frontRTemp < 95:
      print("HEAT: Right front heater")
    else:
      print("NO HEAT: Right front heater")
    if backTemp < 95.5 :
      print("HEAT: Back heater")
    else :
      print("NO HEAT: Back heater")
    if wristLTemp < 95.5 :
      print("HEAT: Left wrist heater")
    else :
      print("NO HEAT: Left wrist heater")
    if wristRTemp < 95.5 :
      print("HEAT: Right wrist heater")
    else :
      print("NO HEAT: Right wrist heater")

  if pref == 4:
    if bodyAv < prefTemp:
      print("HEAT: All heaters")
    if bodyAv > prefTemp:
      print("NO HEAT: All heaters")

  # the error margin in the parentheses below would be determined by the error margin on the
sensors
  print("The outside temperature is " + str(extTemp) + " degrees Fahrenheit. (+/- 1 degree)")
  if extTemp < 32 :
    print("The temperature is below freezing outside, make sure you are warm enough.")
  if extTemp > 70 :
    print("The outside temperature is above 70 degrees fahrenheit, you do not need this jacket.")
  print("Your average body temperature is " + str(bodyAv) + " degrees Fahrenheit. (+/- 1
degree)")

  if bodyAv < 85:
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  print("You are too cold, get to a warmer place.")
if bodyAv > 99.9:
  print("You are too warm, open the zips under your arms and/or get to a colder place.")

#this adds a line for comfortable reading
print(" ")
```