





```

//define the pins being used
int VTemp = 0;           // temperature sensor analog input pin
int HeatOn = 10;        // heat output digital pin
int CoolOn = 11;        // cool output digital pin
int HeatingCoolingBar = 9; // season input digital pin

//thermostat variables
int desiredTempF = 72; // hardcoded for now
int currentTempF = 0; // variable to store the current temperature value

void setup()

{
  pinMode(HeatOn, OUTPUT); // sets the digital pin as output pin
  pinMode(CoolOn, OUTPUT); // sets the digital pin as output pin
  pinMode(HeatingCoolingBar, INPUT); // sets the digital pin as input pin

  Serial.begin(9600); // setup serial communications to laptop
}

void loop()

{
  int tempA2D = analogRead(VTemp);
  currentTempF = _____; //a function of tempA2D value

  Serial.print("The desired temperature is ");
  Serial.print(desiredTempF); Serial.print(" F\n");
  Serial.print("The current temperature is ");
  Serial.print(currentTempF); Serial.print(" F\n");

  //now decide what to do..
  if(_____)
    digitalWrite(HeatOn, HIGH); //active HIGH
  else if(_____)
    digitalWrite(CoolOn, HIGH); //active HIGH

  delay(5000); //wait 5seconds and do it again
}

```