（1）Reading Data from UART Interface：

import time

import serial

ser = serial.Serial(

port='/dev/ttyAMA0',

baudrate = 9600,

parity=serial.PARITY\_NONE,

stopbits=serial.STOPBITS\_ONE,

bytesize=serial.EIGHTBITS,

timeout=1

)

ser.flushInput()

while 1:

data\_string=ser.readline()

print data\_string

（2）Thingspeak Channel Fields ：

import time

import serial

import re

import urllib2

ser = serial.Serial(

port='/dev/ttyAMA0',

baudrate = 9600,

parity=serial.PARITY\_NONE,

stopbits=serial.STOPBITS\_ONE,

bytesize=serial.EIGHTBITS,

timeout=1

)

counter=0

ser.flushInput()

url1='thingspeak URL'

while 1:

data\_string=ser.readline()

data\_num= re.findall('\d+(?:\.\d+)?',data\_string)

NID=data\_num[1]

if NID=="1":

Temperature1=data\_num[2]

elif NID=="2":

Temperature2=data\_num[2]

elif NID=="3":

Temperature3=data\_num[2]

elif NID=="4":

Temperature4=data\_num[2]

counter=counter+1

print data\_num

if counter>=4:

upload1=urllib2.urlopen(url1+Temperature1+"&field2=0"+Temperature2+"&field3=0"+Temperature3+"&field4=0"+Temperature4)

upload1.read()

upload1.close()

counter=0

(3) Email Alert

import smtplib

from email.MIMEMultipart import MIMEMultipart

from email.MIMEText import MIMEText

fromaddr = "username@gmail.com"

toaddr = "username@gmail.com"

msg = MIMEMultipart()

msg['From'] = fromaddr

msg['To'] = toaddr

msg['Subject'] = "HOME SECURITY ALERT"

body = “ALERT MESSAGE"

msg.attach(MIMEText(body, 'plain'))

server = smtplib.SMTP('smtp.gmail.com', 587)

server.starttls()

server.login(fromaddr, "password")

text = msg.as\_string()

server.sendmail(fromaddr, toaddr, text)

server.quit()