FINAL CODE

```
# Importing the libraries
import ibmiotf.application
import ibmiotf.device
from time import sleep
import sys
import schedule
import time
import datetime

#IBM Watson Device Credentials.
organization = "1dh5ok"
deviceType = "ruchitha"
deviceId = "ruchitha18"
authMethod = "token"
authToken = "12345678"


try:
        deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-method": authMethod, "auth-token": authToken}
        deviceCli = ibmiotf.device.Client(deviceOptions)
except Exception as e:
        print("Caught exception connecting device: %s" % str(e))
        sys.exit()
```

#Connecting to IBM watson.

```
deviceCli.connect()
print("")
```

 # Getting details about tablet placed in pill box:

```
while True:
    tab_typ_count = input("Enter how many types of tablet placed in pill Box, maximum 2 types: ")
    if (tab_typ_count == "1"):
      tab_1 = input("Enter the name of Tablet 1: ")
      success = deviceCli.publishEvent("tablet 1", "json", { "Tablet_1" : " %s " % tab_1 }, qos=0)
      if success:
          print("published tablet name :%s"% tab_1)
      success = deviceCli.publishEvent("tablet 2", "json", { "Tablet_2" : " No Tablet" }, qos=0)
      if success:
          print("published tablet name : NO tablets")
      print("")
    elif (tab_typ_count == "2"):
      tab_1 = input("Enter the name of Tablet 1: ")
      success = deviceCli.publishEvent("tablet 1", "json", { "Tablet_1" : " %s " % tab_1 }, qos=0)
      if success:
```

```
            print("published tablet name :%s"% tab_1)
        print("")
        tab_2 = input("Enter the name of Tablet 2: ")
        success = deviceCli.publishEvent("tablet 2", "json", { "Tablet_2"
: " %s " % tab_2 }, qos=0)
        if success:
            print("published tablet name :%s"% tab_2)
        print("")
       if (tab_typ_count != "1" and tab_typ_count != "2"):
        print("Enter the count betwen 1 to 2")
       else:
         break
```

 # Reminder functions:

```
def tab_1_mng_reminder():
    success = deviceCli.publishEvent("Medicine reminder", "json", {
"Medicine_reminderM1" : "Now it is the time to consume your
Tablet %s " % tab_1 }, qos=0)
    if success:
        print("Publish ok")
        print("Published reminder : Now the time is %s:%s consume
your Tablet %s " % (mng_rem_tab1_time_HH,
mng_rem_tab1_time_MM, tab_1))
        print("")
```

```
    tab_1_ack = input("Have you consumed your tablet %s:  " %tab_1)
    if (tab_1_ack == "yes"):
        success = deviceCli.publishEvent("Acknowledgement", "json",
{ "Aknowledgement" : "The patient has consumed the Tablet %s " %
tab_1 }, qos=0)
        if success:
            print("publish ok")
            print("published aknowledgement: The patient has
consumed the tablet")
        elif (tab_1_ack == "no"):
        success = deviceCli.publishEvent("Alert", "json", { "Alert" :
"The patient not consumed the Tablet %s " % tab_1 }, qos=0)
        if success:
            print("publish ok")
            print("published aknowledgement: The patient not
consumed the tablet")
def tab_1_evg_reminder():
    success = deviceCli.publishEvent("Medicine reminder", "json", {
"Medicine_reminderE1" : "Now it is the time to consume your Tablet
%s " % tab_1 }, qos=0)
    if success:
        print("Publish ok")
        print("Published reminder : Now the time is %s:%s consume
your Tablet %s " % (evg_rem_tab1_time_HH,
evg_rem_tab1_time_MM, tab_1))
```

```
        print("")


    tab_1_ack = input("Have you consumed your tablet %s:  " %tab_1)
    if (tab_1_ack == "yes"):
        success = deviceCli.publishEvent("Acknowledgement", "json",
{ "Aknowledgement" : "The patient has consumed the Tablet %s " %
tab_1 }, qos=0)
        if success:
            print("publish ok")
            print("published aknowledgement: The patient has
consumed the tablet")
    elif (tab_1_ack == "no"):
        success = deviceCli.publishEvent("Alert", "json", { "Alert" :
"The patient not consumed the Tablet %s " % tab_1 }, qos=0)
        if success:
            print("publish ok")
            print("published aknowledgement: The patient not
consumed the tablet")
def tab_2_mng_reminder():
    success =deviceCli.publishEvent("Medicine reminder", "json", {
"Medicine_reminderM2" : "Now it is the time to consume your
Tablet %s " % tab_2 }, qos=0)
    if success:
        print("Publish ok")
```

```
        print("Published reminder : Now the time is %s:%s consume your Tablet %s " % (mng_rem_tab2_time_HH, mng_rem_tab2_time_MM,tab_2))
        print("")

    tab_2_ack = input("Have you consumed your tablet %s:  " %tab_2)
    if (tab_2_ack == "yes"):
        success = deviceCli.publishEvent("Acknowledgement", "json", { "Aknowledgement" : "The patient has consumed the Tablet %s " % tab_2 }, qos=0)
        if success:
            print("publish ok")
            print("published aknowledgement: The patient has consumed the tablet")

    elif (tab_2_ack == "no"):
        success = deviceCli.publishEvent("Alert", "json", { "Alert" : "The patient not consumed the Tablet %s " % tab_1 }, qos=0)
        if success:
            print("publish ok")
            print("published aknowledgement: The patient not consumed the tablet")
```

```
def tab_2_evg_reminder():
    success = deviceCli.publishEvent("Medicine reminder", "json", { "Medicine_reminderE2" : "Now it is the time to consume your Tablet %s " % tab_2 }, qos=0)
    if success:
        print("Publish ok")
        print("Published reminder : Now the time is %s:%s consume your Tablet %s " % (evg_rem_tab2_time_HH, evg_rem_tab2_time_MM,tab_2))
        print("")

    tab_2_ack = input("Have you consumed your tablet %s:  " %tab_2)
    if (tab_2_ack == "yes"):
        success = deviceCli.publishEvent("Acknowledgement", "json", { "Aknowledgement" : "The patient has consumed the Tablet %s " % tab_2 }, qos=0)
        if success:
            print("publish ok")
            print("published aknowledgement: The patient has consumed the tablet")
    elif (tab_2_ack == "no"):
        success = deviceCli.publishEvent("Alert", "json", { "Alert" : "The patient not consumed the Tablet %s " % tab_2 }, qos=0)
        if success:
            print("publish ok")
```

```
            print("published aknowledgement: The patient not
consumed the tablet")
```

 # If only one type of tablet is placed in the pill box, user will be provided with this options:

```
if (tab_typ_count == "1"):

   # For morning reminder
   while True:
      mng_option = input("Do you want reminder for
Morning(YES/NO): ")
      print("")

      if (mng_option == "YES" or mng_option == "yes"):

            while True:
               mng_rem_tab_1 = input("Enter the name of tablet  to be
reminded at Morning: ")
               mng_rem_tab1_time_HH = input("Enter the Hour(HH) to
be reminded : ")
               mng_rem_tab1_time_MM = input("Enter the
Minute(MM) to be reminded : ")
               print("")
```

```
            if (mng_rem_tab_1 == tab_1):
                schedule.every().day.at("%s:%s"
%(mng_rem_tab1_time_HH,mng_rem_tab1_time_MM)).do(tab_1_
mng_reminder)
            if (mng_rem_tab_1 != tab_1):
                print("The tablet name you entered is not in pill box,
again enter the correct name")
                print("")
            else:
                break
    if (mng_option != "YES" and mng_option != "yes" and
mng_option != "NO" and mng_option != "no"):
        print("Only type YES or NO")
        print("")

    else:
        break
```

#For evening reminder

```
while True:
    evg_option = input("Do you want reminder for Evening(YES/NO):
")
    print("")
```

```
    if (evg_option == "YES" or evg_option == "yes" ):


        while True:
            evg_rem_tab_1 = input("Enter the name of tablet to be reminded at Evening: ")
            evg_rem_tab1_time_HH = input("Enter the Hour(HH) to be reminded : ")
            evg_rem_tab1_time_MM = input("Enter the Minute(MM) to be reminded : ")
            print("")


            if (evg_rem_tab_1 == tab_1):
                schedule.every().day.at("%s:%s" %(evg_rem_tab1_time_HH,evg_rem_tab1_time_MM)).do(tab_1_evg_reminder)


            if (evg_rem_tab_1 != tab_1):
                print("The tablet name you entered is not in pill box, again enter the correct name")
                print("")
            else:
                break


    if (evg_option != "YES" and evg_option != "yes" and evg_option != "NO" and evg_option != "no"):
        print("Only type YES or NO")
```

```
        print("")
    else:
        break
```

 # If the two types of tablet place in the pill box user will be provided with this option:

```
if (tab_typ_count == "2"):

  # For morning reminder
  while True:
    mng_option = input("Do you want reminder for Morning(YES/NO): ")
   if (mng_option == "YES" or mng_option == "yes"):

        while True:
            mng_reminder = input("Enter the number of Tablets to be reminded for Morning: ")
            print("")

            if (mng_reminder == "1"):

                while True:

                    mng_rem_tab_1 = input("Enter the name of tablet  to be reminded at Morning: ")
```

```
                    mng_rem_tab1_time_HH = input("Enter the
Hour(HH) to be reminded : ")
                    mng_rem_tab1_time_MM = input("Enter the
Minute(MM) to be reminded : ")
                    print("")

                    if (mng_rem_tab_1 == tab_1):
                        schedule.every().day.at("%s:%s"
%(mng_rem_tab1_time_HH,mng_rem_tab1_time_MM)).do(tab_1_
mng_reminder)

                    if (mng_rem_tab_1 != tab_1):
                        print("The tablet name you entered is not in
pill box, again enter the correct name")
                        print(""
                    else:
                        break
                elif (mng_reminder == "2"):
                    while True:
                    mng_rem_tab_1 = input("Enter the name of first
tablet  to be reminded at Morning: ")
                    mng_rem_tab1_time_HH = input("Enter the
Hour(HH) to be reminded : ")
                    mng_rem_tab1_time_MM = input("Enter the
Minute(MM) to be reminded : ")
                    print("")
```

```
                    if (mng_rem_tab_1 == tab_1):
                        schedule.every().day.at("%s:%s"
%(mng_rem_tab1_time_HH,mng_rem_tab1_time_MM)).do(tab_1_
mng_reminder)
                    elif(mng_rem_tab_1 == tab_2):
                        schedule.every().day.at("%s:%s"
%(mng_rem_tab1_time_HH,mng_rem_tab1_time_MM)).do(tab_2_
mng_reminder)

                    if (mng_rem_tab_1 != tab_1 and
mng_rem_tab_1 != tab_2 ):
                        print("The tablet name you entered is not in
pill box, again enter the correct name")
                        print("")

                    else:
                        break
                while True:

                    mng_rem_tab_2 = input("Enter the name of
second tablet  to be reminded at Morning: ")
                    mng_rem_tab2_time_HH = input("Enter the
Hour(HH) to be reminded : ")
                    mng_rem_tab2_time_MM = input("Enter the
Minute(MM) to be reminded : ")
```

```
                print("")

                if (mng_rem_tab_2 == tab_1):
                    schedule.every().day.at("%s:%s"
%(mng_rem_tab2_time_HH,mng_rem_tab2_time_MM)).do(tab_1_
mng_reminder)
                elif (mng_rem_tab_2 == tab_2):
                    schedule.every().day.at("%s:%s"
%(mng_rem_tab2_time_HH,mng_rem_tab2_time_MM)).do(tab_2_
mng_reminder)

                if (mng_rem_tab_2 != tab_1 and
mng_rem_tab_2 != tab_2 ):
                    print("The tablet name you entered is not in
pill box, again enter the correct name")
                    print("")

                else:
                    break
            if (mng_reminder != "1" and mng_reminder != "2"):
                print("Enter the value  as 1 or 2")
                print("")

            else:
                break
```

```
    if (mng_option != "YES" and mng_option != "yes" and
mng_option != "no" and mng_option != "NO"):
        print("Only type YES or NO")
        print("")

    else:
        break

  #For evening reminder
  while True:
    evg_option = input("Do you want reminder for Evening(YES/NO):
")

    if (evg_option == "YES" or evg_option == "yes"):

        while True:
            evg_reminder = input("Enter the number of Tablets to
be reminded for Evening: ")
            print("")

            if (evg_reminder == "1"):

                while True:
```

```
                    evg_rem_tab_1 = input("Enter the name of
tablet to be reminded at Evening: ")
                    evg_rem_tab1_time_HH = input("Enter the
Hour(HH) to be reminded : ")
                    evg_rem_tab1_time_MM = input("Enter the
Minute(MM) to be reminded : ")
                    print("")

                    if (evg_rem_tab_1 == tab_1):
                        schedule.every().day.at("%s:%s"
%(evg_rem_tab1_time_HH,evg_rem_tab1_time_MM)).do(tab_1_ev
g_reminder)

                    if (evg_rem_tab_1 != tab_1):
                        print("The tablet name you entered is not in
pill box, again enter the correct name")
                        print("")

                    else:
                        break

                elif (evg_reminder == "2"):
```

```
                while True:


                    evg_rem_tab_1 = input("Enter the name of first
tablet  to be reminded at Evening: ")

                    evg_rem_tab1_time_HH = input("Enter the
Hour(HH) to be reminded : ")

                    evg_rem_tab1_time_MM = input("Enter the
Minute(MM) to be reminded : ")

                    print("")


                    if (evg_rem_tab_1 == tab_1):

                        schedule.every().day.at("%s:%s"
%(evg_rem_tab1_time_HH,evg_rem_tab1_time_MM)).do(tab_1_ev
g_reminder)

                    elif (evg_rem_tab_1 == tab_2):

                        schedule.every().day.at("%s:%s"
%(evg_rem_tab1_time_HH,evg_rem_tab1_time_MM)).do(tab_2_ev
g_reminder)


                    if (evg_rem_tab_1 != tab_1 and evg_rem_tab_1
!= tab_2):

                        print("The tablet name you entered is not in
pill box, again enter the correct name")

                        print("")

                    else:

                        break
```

```
                while True:


                    evg_rem_tab_2 = input("Enter the name of
second tablet  to be reminded at Evening: ")

                    evg_rem_tab2_time_HH = input("Enter the
Hour(HH) to be reminded : ")

                    evg_rem_tab2_time_MM = input("Enter the
Minute(MM) to be reminded : ")

                    print("")


                    if (evg_rem_tab_2 == tab_1):

                        schedule.every().day.at("%s:%s"
%(evg_rem_tab2_time_HH,evg_rem_tab2_time_MM)).do(tab_1_ev
g_reminder)

                    elif (evg_rem_tab_2 == tab_2):

                        schedule.every().day.at("%s:%s"
%(evg_rem_tab2_time_HH,evg_rem_tab2_time_MM)).do(tab_2_ev
g_reminder)


                    if (evg_rem_tab_2 != tab_1 and evg_rem_tab_2
!= tab_2):

                        print("The tablet name you entered is not in
pill box, again enter the correct name")

                        print("")

                    else:

                        break
```

```
            if (evg_reminder != "1" and evg_reminder != "2"):
                print("Enter the value  as 1 or 2")
                print("")
            else:
                break

    if(evg_option != "YES" and evg_option != "yes" and evg_option != "no" and evg_option != "NO"):
        print("Only type YES or NO")
        print("")
    else:
        break
while True:
    schedule.run_pending()
    sleep(1)
    Current_time = time.strftime("%H:%M:%S" , time.localtime())
    success = deviceCli.publishEvent("time", "json", { "Time" : " %s " % Current_time }, qos=0)
    a = datetime.datetime.now()
    date = a.date()
    success = deviceCli.publishEvent("date", "json", { "Date" : " %s " % date }, qos=0)
```