**PYTHON PROGRAMMING PROJECT**

**OBJECTIVE:** to implement an alarm clock using Python. Python consists of some very innovative libraries such as datetime and tkinter which help us to build the project using the current date and time as well as to provide a user interface to set the alarm according to the requirement in 24-hour format.

**PROJECT FILE STRUCTURE** :importing all the libraries and modules required

Putting forward a while loop which takes the argument of the time, the user wants to set the alarm on and automatically breaks when the time is up, with sound

#Importing all the necessary libraries to form the alarm clock:

import datetime

import time

import winsound

**Explanation:**

* [**Datetime**](https://docs.python.org/3/library/datetime.html) and **time** modules in python help us to work with the dates and time of the current day when the user is operating python and to manipulate it too.
* **Winsound** module provides access to the basic sound playing machinery provided by Windows platforms. This is useful to generate the sound immediately when a function is called.

**CODE:**

import datetime

import time

def alarm(set\_alarm\_timer):

while True:

time.sleep(1)

current\_time = datetime.datetime.now()

now = current\_time.strftime("%H:%M:%S")

date = current\_time.strftime("%d/%m/%Y")

print("The Set Date is:", date)

print(now)

if now == set\_alarm\_timer:

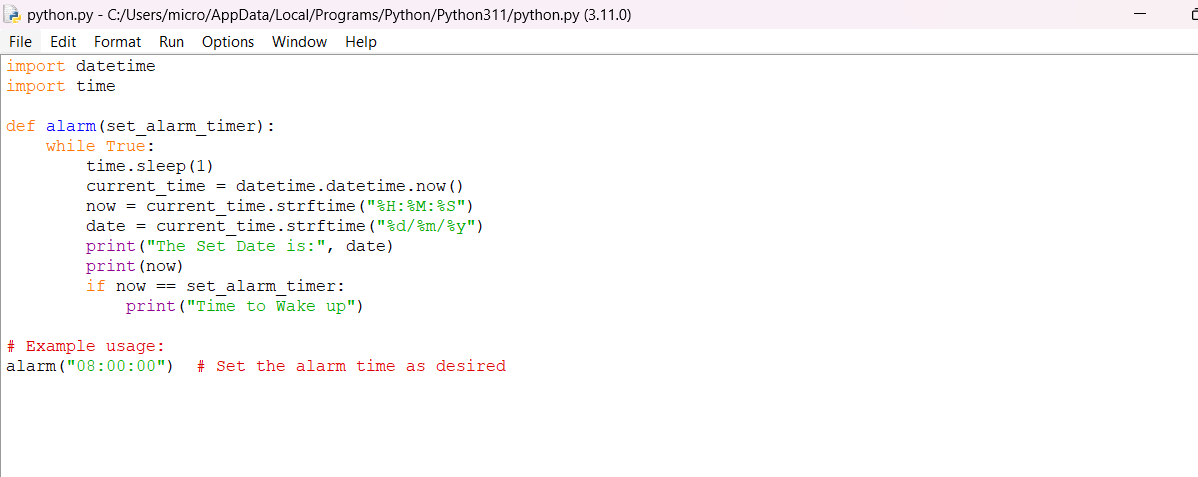
print("Time to Wake up")

# Example usage:

alarm("08:00:00") # Set the alarm time as desired

**Explanation:**

* Define a function named as **alarm()** which takes the argument of (**set\_alarm\_timer**).It contains a while loop with a Boolean function True which makes the program automatic to work.
* **time.sleep(1)** halts the execution of the further commands given until we get the time value from the user later in the code and returns the background thread of the clock time going on at a regular interval.
* Get the current time using **current\_time** which takes the argument of **datetime.datetime.now()**.
* now is used to print the time and date is used to print the current date by **string conversion** using **strftime()**.
* Define another function here named **actual\_time()** which takes in the user value for setting the alarm in the string format. The same argument of (**set\_alarm\_timer**) as alarm before to execute the while loop which we further use while making GUI.
* If loop suggests that if the user input time **set\_alarm\_timer** matches with the while loop ongoing time now, the message is printed as” **Time to Wake up**”.
* **winsound.SND\_ASYNC** plays the system generated sound as soon the condition satisfies, acting as a reminder for the alarm clock.

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