

Mini_Project

May 13, 2023

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[1]: #Problem Statement :  
#  
#Create A Countdown Timer Using Python  
#Features To Include  
#Reset/ Stop  
#Pause /Resume
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[5]: #importing libraries  
import time  
import threading  
  
#defining class function  
class CountdownTimer:  
    def __init__(self, duration):  
        self.duration = duration  
        self.paused = False  
        self.stopped = False  
  
    def start(self):  
        self.start_time = time.time()  
        self.end_time = self.start_time + self.duration  
        self.timer_thread = threading.Thread(target=self._run)  
        self.timer_thread.start()  
  
    def _run(self):  
        while time.time() < self.end_time:  
            if self.paused or self.stopped:  
                return  
            remaining_time = self.end_time - time.time()  
            minutes, seconds = divmod(int(remaining_time), 60)  
            print(f"Time remaining: {minutes:02d}:{seconds:02d}")  
            time.sleep(1)  
  
    def pause(self):  
        self.paused = True  
  
    def resume(self):  
        if self.paused:
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        self.paused = False
        self.start_time = time.time()
        self.end_time = self.start_time + (self.end_time - self.start_time)
        self.timer_thread = threading.Thread(target=self._run)
        self.timer_thread.start()

    def stop(self):
        self.stopped = True

    def reset(self, duration):
        self.duration = duration
        self.paused = False
        self.stopped = False
        self.start()

# Usage example
duration = 60 # 1 minute time

timer = CountdownTimer(duration)
timer.start()

while True:
    choice = input("Enter 'p' to pause, 'R' to resume, 's' to stop, or 'Re' to
↳Reset: ")
    if choice == 'p':
        timer.pause()
    elif choice == 'R':
        timer.resume()
    elif choice == 's':
        timer.stop()
    elif choice == 'Re':
        timer.reset(10)
    break

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Time remaining: 01:00
Time remaining: 00:58
Time remaining: 00:57
Time remaining: 00:56
Time remaining: 00:55
Enter 'p' to pause, 'R' to resume, 's' to stop, or 'Re' to Reset: p
Enter 'p' to pause, 'R' to resume, 's' to stop, or 'Re' to Reset: R
Time remaining: 00:51
Time remaining: 00:50
Time remaining: 00:49
Time remaining: 00:48
Time remaining: 00:47
Time remaining: 00:46
Time remaining: 00:45

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Enter 'p' to pause, 'R' to resume, 's' to stop, or 'Re' to Reset: Re
Time remaining: 00:10
Time remaining: 00:09
Time remaining: 00:08
Time remaining: 00:08
Time remaining: 00:07
Time remaining: 00:07
Time remaining: 00:06
Time remaining: 00:06
Time remaining: 00:05
Time remaining: 00:05
Time remaining: 00:04
Time remaining: 00:04
Time remaining: 00:03
Time remaining: 00:03
Time remaining: 00:02
Time remaining: 00:02
Time remaining: 00:01
Time remaining: 00:01
Time remaining: 00:00
Time remaining: 00:00
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[4]: #Thus, A simple Countdown Timer Is Created in Python with pause/resume and  
      ↪reset/stop
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