Project1.

Clock Angle Problem

Clock Angle Problem:

Given time in hh:mm format in 24-hour notation, calculate the shorter angle between the hour and minute hand in an analog clock.

Input: 5:30

Output: 15°

Input: 21:00

Output: 90°

Input: 12:00

Output: 0°

Code of Project

#Program to find angle between hour and minutes hand

def clockangle(hour, minutes):

if 00 <= hour <= 24 and 00 <= minutes <= 60:

#converting the 24hr format to 12 to make calculation easier

if hour > 12:

hour = hour - 12

#if user inputs 3:60 the program will assume the time as 4:00

if minutes == 60:

hour = hour + 1

minutes = 00

#calculating the angle

hour = hour + minutes / 60

handiff = abs(hour - minutes / 5)

preangle = handiff \* 30

postangle = min(preangle, 360 - preangle)

return postangle

else:

print("Enter a correct time.")

exit()

print("\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n")

print("Give a time in hh:mm format in 24 hour notation")

print("\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n")

postangle=clockangle(int(input("Hour: ")), int(input("Minutes: ")))

angle=format(postangle,".2f")

print("\nThe difference between the hour and the minute hand is", angle + "°")

Output of Project

