# in this function we can solve Questions 1 , 2 , 3 , 4 , 5 and 6 from the work sheet  
  
def physics\_cal():  
 #because the user will choose from the list we have to use While true  
 while True:  
 print("------------------------------------")  
 print("a. The Equation for Time")  
 print("b. The Equation for Acceleration")  
 print("c. The Equation for Speed")  
 print("d. The Equation for Distance")  
 print("e. for closing the program")  
 print("------------------------------------")  
 # response is the user choose from the list  
 response = input(" choose a letter from a-e : ")  
  
 # this block is for the time equation and the user will enter the distance and speed  
 if response.lower() == "a":  
  
 distance = float(input(" Enter the distance:"))  
 speed = float(input(" Enter the speed:"))  
 # the result  
 print("The time is",( distance/ speed ),"s")  
  
 #this block is for the acceleration equation  
 elif response.lower() == "b":  
 vf = float(input(" Enter the VF:"))  
 vi = float(input(" Enter the VI:"))  
 time = float(input(" Enter the Time in s :"))  
 # the result  
 print("The Accleration is", ((vf - vi) / (time / 3600)), "m/s^2")  
  
 # this block is for the speed equation  
 elif response.lower() == "c":  
  
 distance = float(input(" Enter the Distance:"))  
 time = float(input(" Enter the Time:"))  
 # the result  
 print("The speed is", ( distance / time),"m/s")  
  
 # this block is for the Distance equation  
 elif response.lower() == "d" :  
 # the user will enter the numbers here  
 speed = float(input(" Enter the speed :"))  
 speed\_unit = input(" Enter the unit of speed : km/hr or m/s:")  
 time = float(input(" Enter the time:"))  
  
 # here the user can enter the number and Determine the unit if its ( km/hr ) or ( m/s)  
 if speed\_unit.lower() == "km/hr":  
 print("The Distance is ", ( speed \* time), "km")  
  
 elif speed\_unit.lower() == "m/s" :  
 time\_unit = input(" Enter the unit of Time : s or m ")  
  
 # if the user has chosen m/s , now he have to choose the unit of the time ( seconds ) or ( minutes )  
 if time\_unit.lower() == "m":  
 print("The Distance is :",( speed \* (time \* 60)), "m") # when the user chose minutes  
 else :  
 print("The Distance is ", (speed \* time), "m") # when the user chose seconds  
  
 # finally this block is for exiting the program  
 elif response.lower() == "e":  
 print(" closing the program...")  
 print(" Thank you")  
 break  
  
  
# initiate the universal function  
print(physics\_cal())