List comprehension.

square\_list = [i\*\*2 for i in range(101) if i\*\*2%3 == 0]

print (square\_list)

*Note: Consider using ‘import sys’ to import functions from different locations.*

#create database: {'FS1', 1):45,...} print(grades[('FS1',1)])

def read\_data(data):

user\_data = input("Enter the student's " + data + ". (Or a blank entry to stop.)")

return user\_data

grades = {}

while True:

student\_group = read\_data("group name")

if student\_group == "":

break

student\_ID = read\_data("ID")

grades[student\_group, student\_ID] = read\_data("grade")

print("Student " + student\_ID + " data has been entered.")

print(grades)

#query(dataBase, group, id) to get score

def query(dataBase, group, ID):

try:

key = str(group),str(ID)

return (dataBase[group,ID[0]])

except:

return None

#listgrades

def listGrades(dataBase, group):

listOfScores = []

for key,value in dataBase.items():

if key[0] == group:

listOfScores.append(value)

return listOfScores

#maxGrade

def maxGrade(dataBase, group):

scores = listGrades(dataBase,group)

return max(scores)

#more user options

def start\_program():

user\_choice = input("Welcome to the grading system! Please enter your option:" )

#1: input record

#2: query a student

#3: list grades in a group

#4: get max in a group

#5: list all group names

#6: exit

from sense\_hat import SenseHat

sense = SenseHat()

DisplayMessage = input("Enter your message to display: ")

rotateInt = int(input("Enter your rotation angle: "))

while rotateInt != 0 and rotateInt != 90 and rotateInt != 180 and rotateInt != 270 and rotateInt != 360:

    print("You can only rotate by 0, 90, 180, or 270 degrees. Please try again.")

    rotateInt = int(input("Enter your rotation angle: "))

def get\_colour\_msg():

    colour\_msg = [-1,-1,-1]

    for i in range(3):

        while colour\_msg[i] not in range(256):

            print("Please input colour of message in RGB: a number from 0-255")

            colour\_msg[0] = int(input("Red proportion: "))

            colour\_msg[1] = int(input("Green proportion: "))

            colour\_msg[2] = int(input("Blue proportion: "))

            if colour\_msg[i] not in range(256):

                print("Your message colour is not in RGB range. Please try again.")

    return [colour\_msg[0], colour\_msg[1], colour\_msg[2]]

def get\_colour\_bg():

    colour\_bg = [-1, -1, -1]

    for i in range(3):

        while colour\_bg[i] not in range(256):

            print("Please input colour of background in RGB: a number from 0-255.")

            colour\_bg[0] = int(input("Red proportion: "))

            colour\_bg[1] = int(input("Green proportion: "))

            colour\_bg[2] = int(input("Blue proportion: "))

            if colour\_bg[i] not in range(256):

                print("Your background colour is not in RGB range. Please try again.")

    return [colour\_bg[0], colour\_bg[1], colour\_bg[2]]

colour\_msg = get\_colour\_msg()

colour\_bg = get\_colour\_bg()

speed = float(input("Enter your text speed: "))

while True:

    sense.set\_rotation(rotateInt)

    sense.show\_message(DisplayMessage, text\_colour = colour\_msg, back\_colour = colour\_bg, scroll\_speed = speed)

    if not input("Would you like to print message again? (y/n) ").upper().startswith('Y'):

        break

while type(colour\_msg[i]) != int:

    print("Please enter an integer value.")