

**Homework #5**

**01286121 Computer Programming**

**Software Engineering Program,**

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By

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1.

Code:

n = int(input("Input a number: "))

guess = n/2

for i in range(0,5):

temp = float(n/guess)

guess = (guess + temp)/2

print(round(guess, 3))

Result:

A screen shot of a computer

AI-generated content may be incorrect.

2.

Code:

import turtle

import math

turtle.speed(20)

def draw\_calendar(num\_rows):

tlx = turtle.xcor()

tly = turtle.ycor()

turtle.pendown()

calendar\_height = 25 \* (num\_rows + 1) + 25

for \_ in range(2):

turtle.forward(200)

turtle.right(90)

turtle.forward(calendar\_height)

turtle.right(90)

turtle.penup()

for i in range(1, num\_rows + 3):

turtle.goto(tlx, tly - (i \* 25))

turtle.pendown()

turtle.forward(200)

turtle.penup()

turtle.right(90)

for i in range(1,7):

turtle.goto(tlx + (28 \* i), tly - 25)

turtle.pendown()

turtle.forward(calendar\_height - 25)

turtle.penup()

turtle.left(90)

def month\_info(m, md, wd, dt, dy, tlx, tly):

num\_rows = math.ceil((md + (dy - 1)) / 7)

turtle.goto(tlx + 10, tly - 22)

turtle.write(f"Month #{m}")

for i in range(1, 8):

turtle.goto(tlx + 8 + (28 \* (i - 1)), tly - 46)

turtle.write(wd[i])

for date in range(1, md + 1):

current\_day\_number = (dy + date - 2)

row = current\_day\_number // 7

column = current\_day\_number % 7

y\_pos = tly - 75 - (row \* 25)

x\_pos = tlx + 8 + (column \* 28)

turtle.goto(x\_pos, y\_pos)

turtle.write(str(date))

month\_days = {

1: 31, 2: 28, 3: 31, 4: 30, 5: 31, 6: 30,

7: 31, 8: 31, 9: 30, 10: 31, 11: 30, 12: 31

}

week\_days = {

1: "Su", 2: "Mo", 3: "Tu", 4: "We", 5: "Th", 6: "Fr", 7: "Sa"

}

month = 1

m\_day = month\_days[month]

date = 1

day\_num = 4

day = week\_days[day\_num]

for i in range(1,13):

row = (i - 1) // 3

col = (i - 1) % 3

tlx = -400 + (col \* 250)

tly = 350 - (row \* 220)

turtle.penup()

turtle.goto(tlx, tly)

m\_day = month\_days[i]

num\_rows = math.ceil((m\_day + (day\_num - 1)) / 7)

draw\_calendar(num\_rows)

month\_info(i, m\_day, week\_days, date, day\_num, tlx, tly)

day\_num = (day\_num - 1 + m\_day) % 7 + 1

turtle.hideturtle()

turtle.done()

Result:

A calendar with numbers and a few months

AI-generated content may be incorrect.

3.

Code:

num = 0

valid = False

while valid != True:

num = int(input("Enter a number greater than zero: "))

if num <= 0:

print("Invalid number.")

else:

valid = True

for a in range(num, 0, -1):

if a == num or a == 1:

for i in range(1, a + 1):

for j in range(i):

print("\*", end="")

print()

else:

for i in range(2, a + 1):

for j in range(i):

print("\*", end="")

print()

for i in range(a - 1, 0, -1):

for j in range(i):

print("\*", end="")

print()

Result:

A screenshot of a computer

AI-generated content may be incorrect.