Task 1

Similarities: We all used range(for the for loops

Differences: Some used len() and some used .shape()
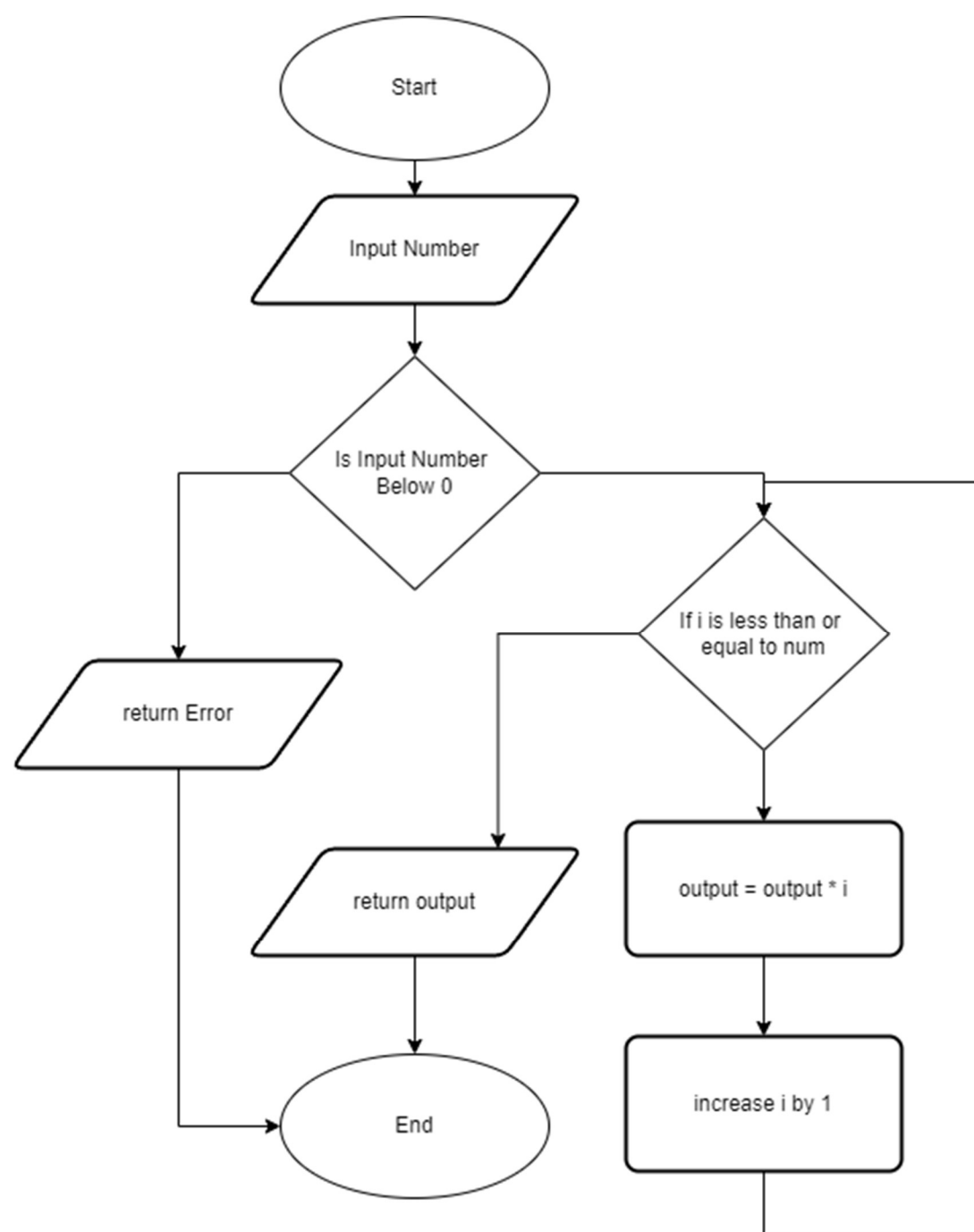
Team Member	For Loops	While Loops
Ankur Raghavan	5	5
Grant Stevenson	4	5
Ramon Randolph	4	5

What is a real world problem that you can solve using for loops and/or while loops in a program?
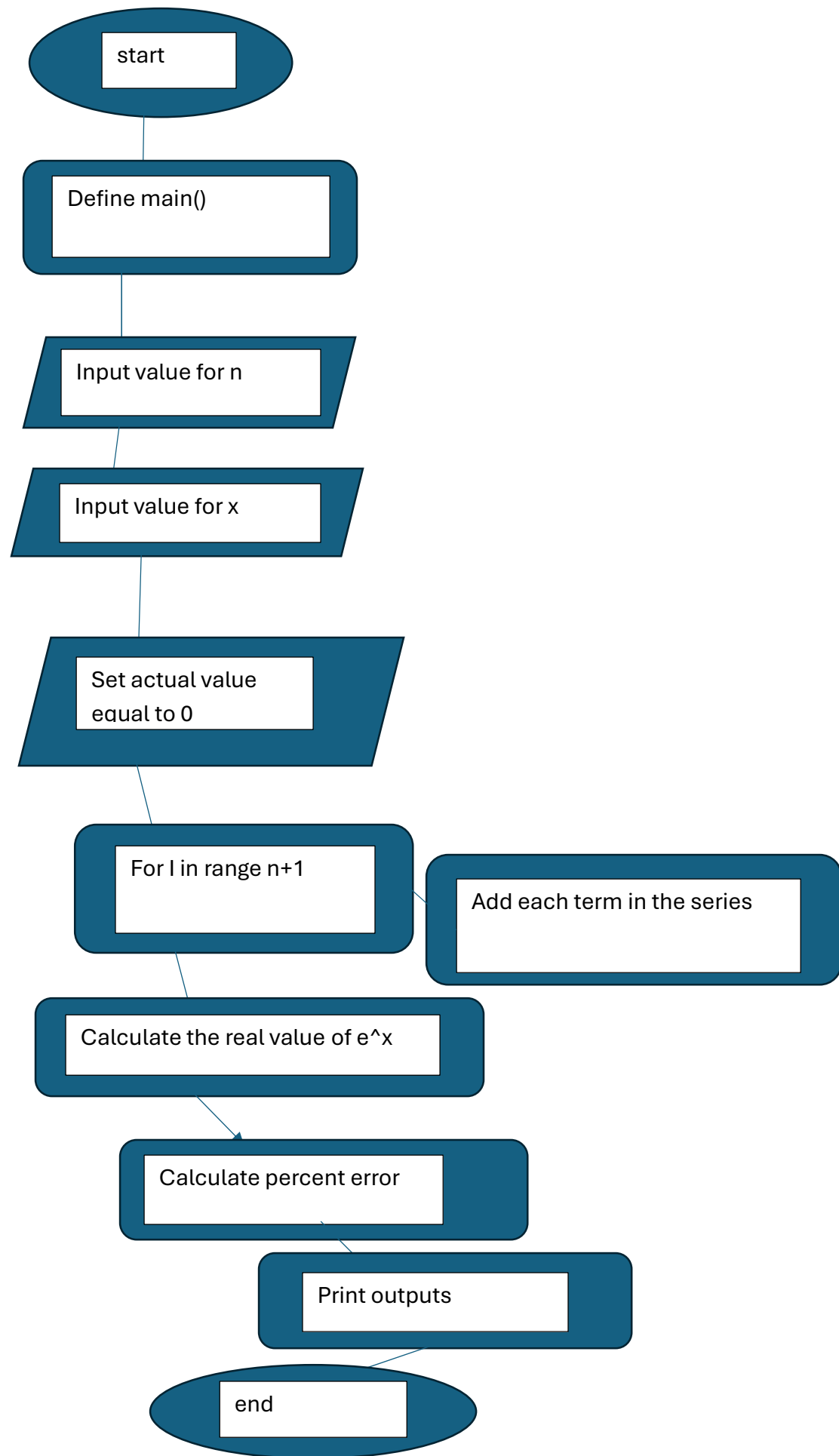
You can have a program that while a user is pressing a button, it opens a door, using a while loop.

We chose to submit this code because it has the most detailed comments.

#2

```
            ┌─────────────┐
            │    Start    │
            └──────┬──────┘
                   │
                   ▼
          ╱─────────────────╲
         ╱   Input Number     ╲
         ╲_____ ╱
                   │
                   ▼
              ◇ Is Input ◇
              Number Below 0
```

Start

Input Number

Is Input Number Below 0

return Error

If i is less than or equal to num

return output

output = output * i

End

increase i by 1

#3 a

start

Define main()

Input value for n

Input value for x

Set actual value
equal to 0

For I in range n+1

Add each term in the series

Calculate the real value of e^x

Calculate percent error

Print outputs

end

#3 b

Start

Input the target error and x

if error is greater than target

False → Print values → End

True → Increase n by 1 and set output to 0

if i is less than n

False → Calculate % error

True → increase output by (x^i)/(my_factorial(i))

increment i