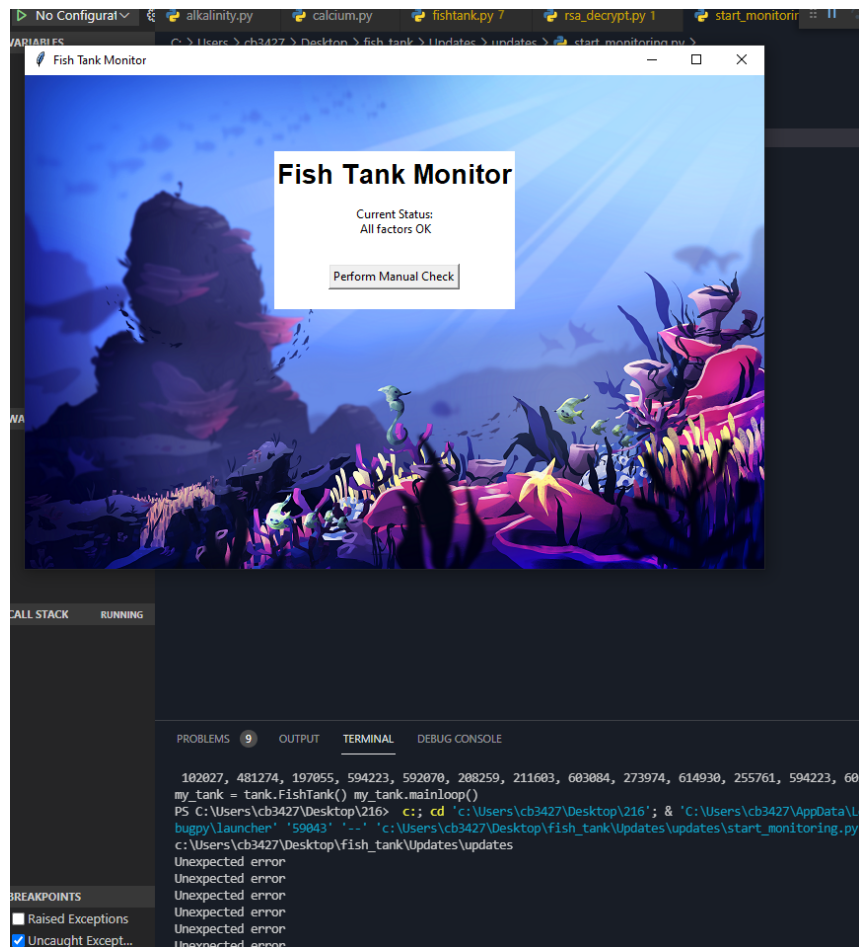


```
02/12/2019 01:07 PM camila@great_company.com Software Update
Recommended Recd From: updates@fishtankmontors.com
http://FishtankMontors.com/updates.zip
```

```
Enter the Decryption Key: 378751
What message would you like to decrypt (No brackets): 518839, 197055, 498096
# start_monitoring.py
PS C:\Users\cb3427\Desktop\216> c:: cd 'c:\Users\cb3427\Desktop\216' & 'C:
```

```
Enter the Decryption Key: 378751
Enter the Modulus: 778207
What message would you like to decrypt (No brackets):
246150, 621988, 503879, 211603, 197055, 299698, 4882
import tkinter as tk import fishtank as tank
```

```
Enter the Decryption Key: 378751
Enter the Modulus: 778207
What message would you like to decrypt (No brackets): 5942
102027, 481274, 197055, 594223, 592070, 208259, 211603, 6
my_tank = tank.FishTank() my_tank.mainloop()
```



Added more defined print statements to find the issues -

```
Unexpected error - Alkalinity
Unexpected error - Temperature
Unexpected error - Magnesium
```

Alkalinity fix - changed val1 to 7 since levels should be between 7 and 12

```
val1 = 7
val2 = 12
```

Error gone

```
Unexpected error - Temperature
Unexpected error - Magnesium
```

Temperature fix - adjusted the num_readings var to a higher number than 0 since nothing can be divided from by 0. Tried 6 because that's how many temps there are but that resulted in a temp too low so I stuck with 3.

```
# get multiple temperature readings
temp_readings = get_temps()
num_readings = 3
```

Error gone

```
Unexpected error - Magnesium
```

Magnesium fix - Removed the num_levels var because it was pointless and removed the 10 in the mag_levels var. Also, changed mag_levels from a list and deleted the range so it was just two integers. Changed the elif statement to (current > mag_levels[1])

```
mag_levels = (val1, val2)

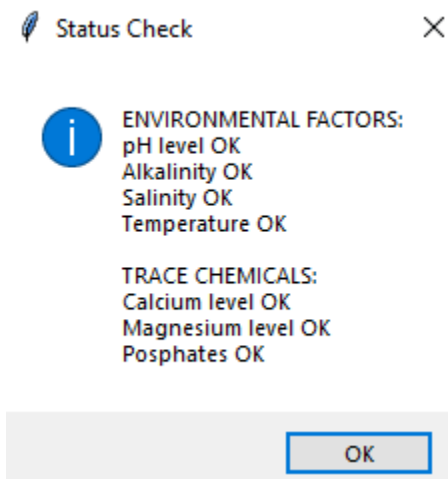
current = get_magnesium_level()
mesg = "Magnesium level OK"

if (current < mag_levels[0]):
    mesg = "Magnesium level too low!"
elif (current > mag_levels[1]):
    mesg = "Magnesium level too high!"
print ("Your val1 is: ", mag_levels[0])
print ("Your val2 is: ", mag_levels[1])
print ("Your mag levels: ", current)
```

Also, had some print statements to judge the mag levels and if they were higher or lower.

```
Your val1 is: 1250  
Your val2 is: 1350  
Your mag levels: 1300
```

Everything fixed -



With your fixes in place, the software should perform all of its monitoring tasks and no longer report errors. Evaluate how the fish tank monitor system could be further improved. The levels of each individual value such as environmental and the chemicals could be listed instead of just saying “ok”. You could also add a way to manually change the levels of everything in the gui.

How did a lack of security awareness contribute to the problems with the fish tank monitoring software? Nobody had seen the fake email, one tiny spelling change might contribute to somebody making a mistake.

How did your debugging and techniques help you fix the problems with the software? Using breakpoints kind of helped to jump to different parts of code and see what was working and what wasn't.