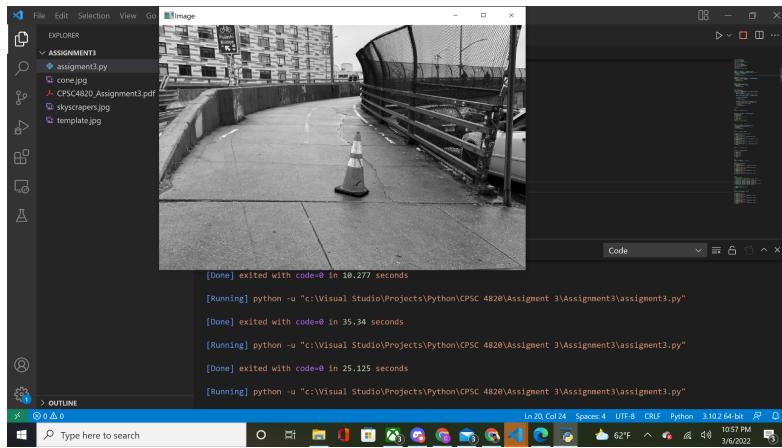


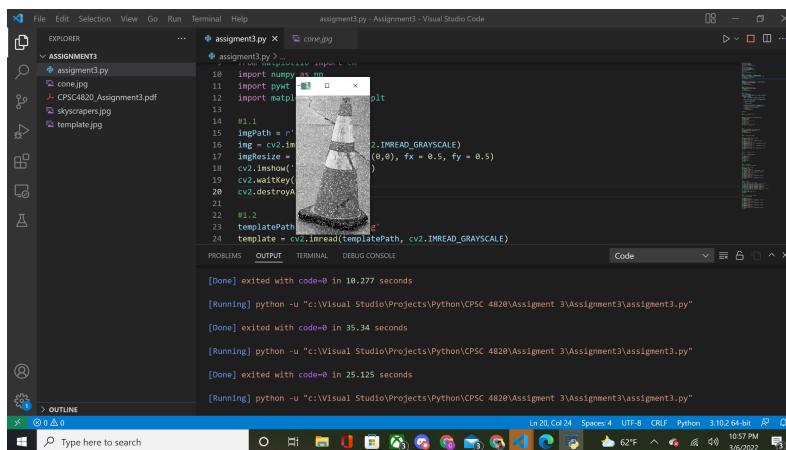
# Christian Cabrera

## Question 1

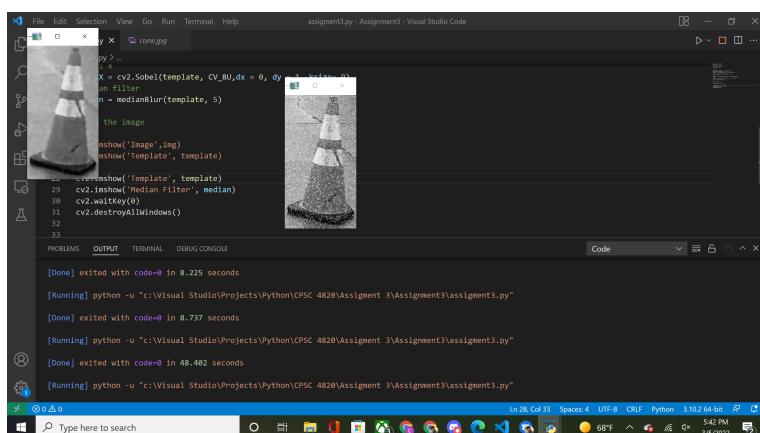
### 1.1



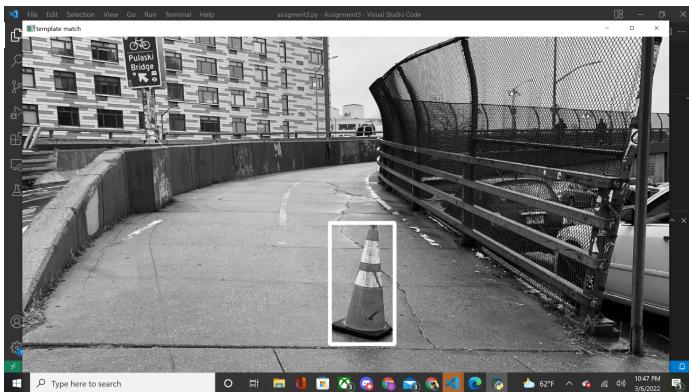
### 1.2



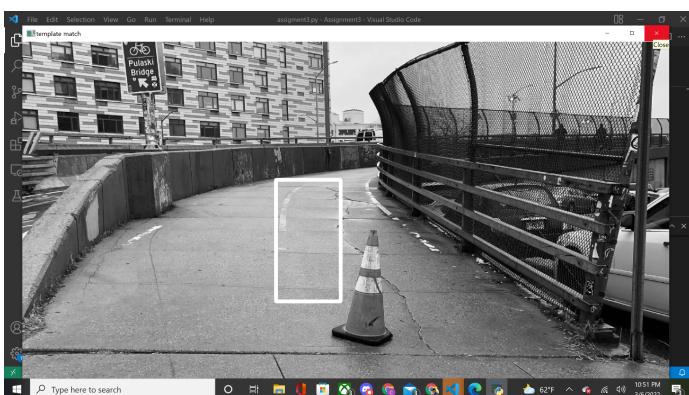
### 1.3



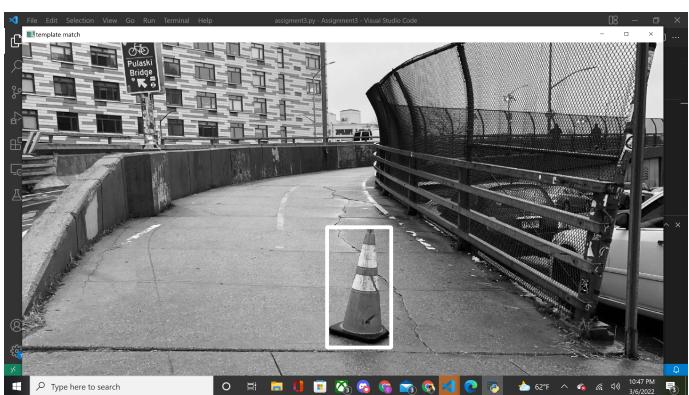
### 1.4



1.5



1.6



1.7

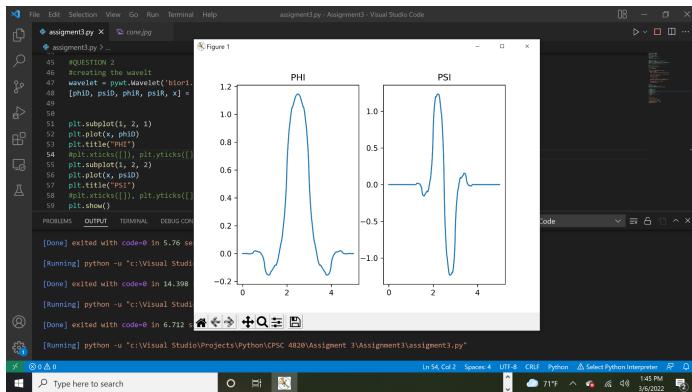
The nominal square correlation and sum square distance methods worked the best, they both found the object.

1.8

The standard correlation method was the one that didn't work.

## Question 2

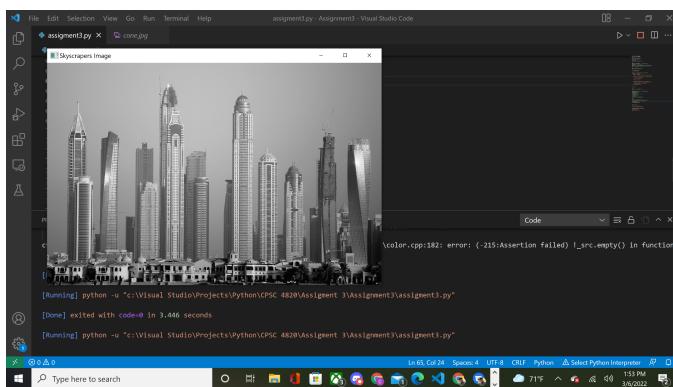
2.2



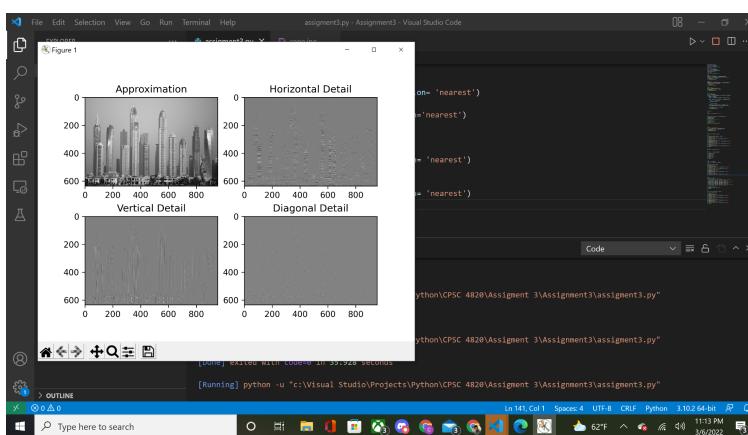
## 2.3

The psi graph looks more like an edge detection graph.

## 2.4



## 2.6



## 2.7

## 2.8

File Edit Selection View Go Run Terminal Help assignment3.py - Assignment 3 Visual Studio Code

assignment3.py core.jpg

```
187
188 #.7
189 wavelet2 = pywt.Wavelet('db20')
190
191 a2_s
192
193 phi, psi, x = wavelet2.wavedec(x)
194
195 plt.suptitle("phi", z, 1)
196 plt.title("phi")
197 plt.plot(x, phi)
198 plt.subplot(1, 2, 2)
199 plt.title("psi")
200 plt.plot(x, psi)
201 plt.show()
```

PROBLEMS OUTPUT TERMINAL DEBUG CODE

[Done] exited with code=0 in 9.913 seconds

[Running] python -u "c:/Visual Studio Projects/Python/CSPC\_4820/Assignment 3/Assignment3/assignment3.py"

[Done] exited with code=0 in 0.437 seconds

[Running] python -u "c:/Visual Studio Projects/Python/CSPC\_4820/Assignment 3/Assignment3/assignment3.py"

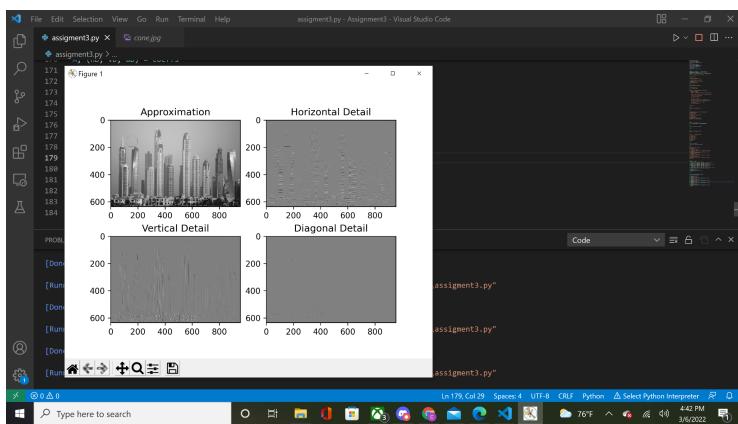
[Done] exited with code=0 in 5.563 seconds

[Running] python -u "c:/Visual Studio Projects/Python/CSPC\_4820/Assignment 3/Assignment3/assignment3.py"

Figure 1

Code

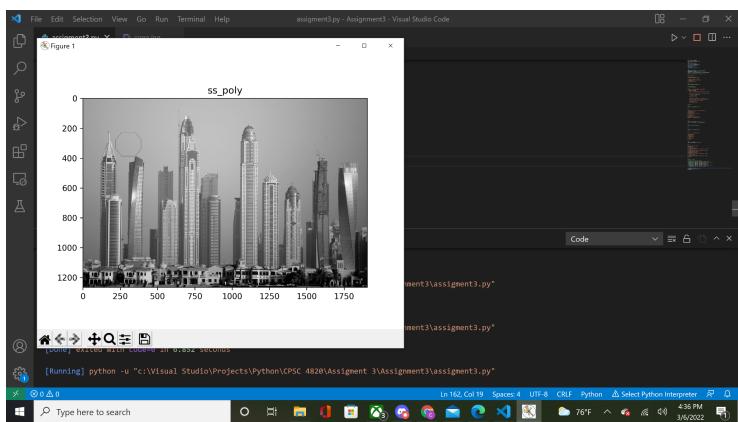
2.10



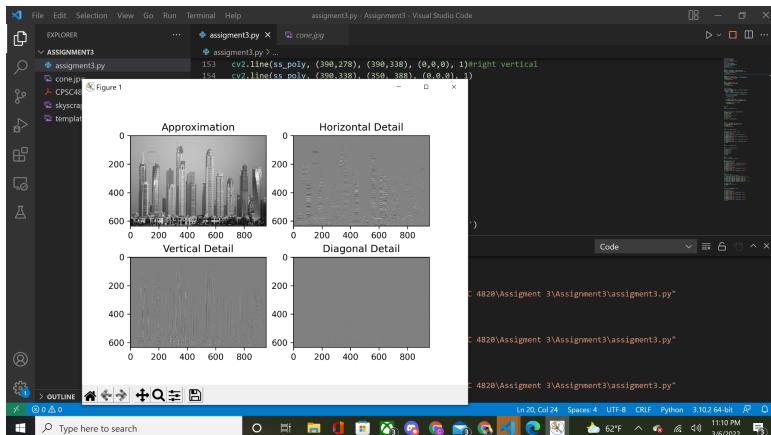
2.11

The duabeshies graph has more detail although it's a very small change.

2.12



2.13.



The shape makes the diagonal detail change and show the diagonal lines of the polynomial.