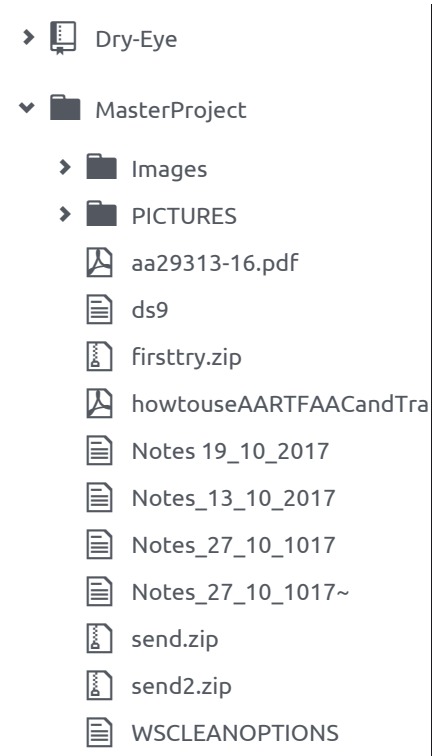

Settings | exc2.py | exc3.py | exc3turnin.py

```
5  # Function returning F(x)
6  def Fx(x):
7      return(np.tan(x))
8  # Function returning hat F(x)
9  def AFx(x):
10     a = (x-(1./6)*(x**3))
11     b = (1-((1./2)*(x**2)))
12     return(a/b)
13
14 # Calc Forward error
15 def Forward(x):
16     return(AFx(x)-Fx(x))
17
18 # Calc Backward error
19 def Backward(x):
20     return(np.arctan(AFx(x))-x)
21
22 # Function returning derivative hat F(x)
23 def dAFx(x):
24     return((4 + 0.333333*x**4)/(2 - x**2)**2)
25
26 # Function returning Relative Condition number eval
27 def dRelCond(x):
28     return((x * np.square(1/(np.cos(x)))/Fx(x)))
29
30 # Function returning Relative Condition number eval
31 def adRelCond(x):
32     return((x * dAFx(x))/AFx(x))
33
34 # Print function
35 def Printfunction(x):
36     print("For x = %0.2f" % x)
37     print("----------------------------------")
38     print('Forward: %0.2e ' %(Forward(x)))
39     print('Backward: %0.2e ' %(Backward(x)))
40     print('Relative condition evaluating f(x): %0.2
41     print('Relative condition evaluating af(x): %0.
42     print("----------------------------------")
43     return 0
44
45 # Initializing values and print functions
46 fx = Fx(1)
47 afx = AFx(1)
```

Numerical_Algorithms/Homework1/exc1.py