Lab Write Up

Part 1:

1) *Function Exp*

For 0 through 9:

Epsilon = 0.00000001

toPrint = 0

n = 1

Val = 1

While val bigger than epsilon:

toPrint = toPrint + val

*Val = val * (x/n)*

n = n+1

The 0 through 9 is for the x values to be tested and the while is where the epsilon comparison takes place. The toPrint variable is what will hold my final printable value

2) *Function Exp*

For 0 through 9:

Epsilon = 0.00000001

toPrint = 0

n = 1

Val = 1

While val bigger than epsilon:

toPrint = toPrint + val

*Val = val * (x/n)*

n = n+1

Print toPrint

Since I already set up my function to have a value ready to print all i have to do is add a print function after my while loop runs.

Part 2:

1) *getopt() returns the next option character if there is one.*
2) *I believe bools are the best choice. They keep the code very readable and make the implementation very straightforward.*

3) *main(args)*

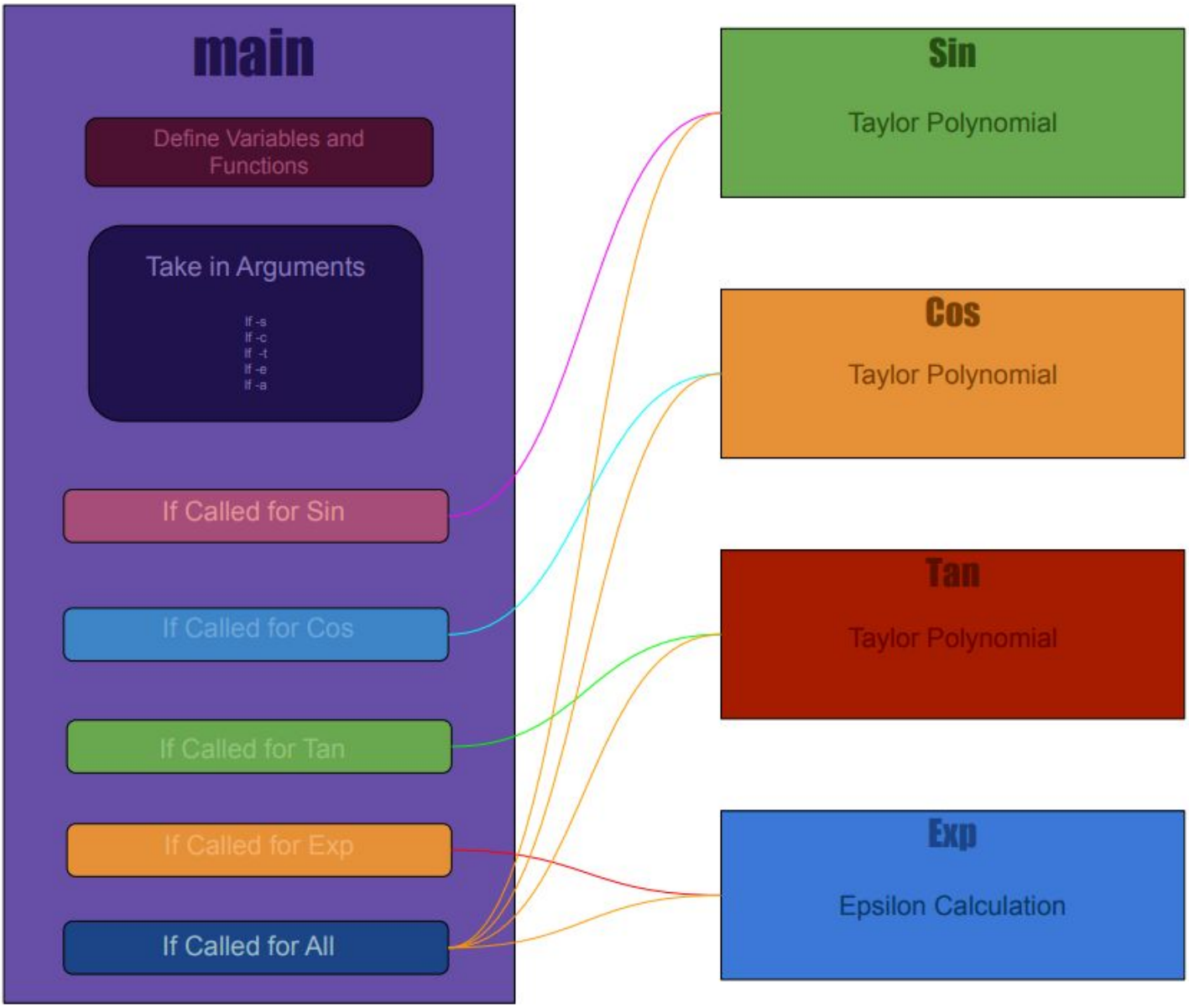
```
sinTrue = f
cosTrue = f
tanTrue = f
expTrue = f
allTrue = f
while( c = getops() and there are more arguments)
        switch(c)
        "S" = sinTrue = t
        "C" = cosTrue = t
        "T" = tanTrue = t
        "E" = expTrue = t
        "A" = allTrue = t
if(less than 2 args)
        print(Need at least 1 arg)
elif(sinTrue)
        Run Sin

elif(cosTrue)
        Run Cos

elif(tanTrue)
        Run Tan

elif(expTrue)
        Run Exp

elif(allTrue)
        Run All
```


main
Define Variables and Functions
Take in Arguments
If -s
If -c
If -t
If -e
If -a
If Called for Sin
If Called for Cos
If Called for Tan
If Called for Exp
If Called for All
Sin
Taylor Polynomial
Cos
Taylor Polynomial
Tan
Taylor Polynomial
Exp
Epsilon Calculation