DSC510 Assignment 5

Directions

This week we will modify our If Statement program to add a function to do the heavy lifting.

Modify your IF Statement program in to add a function. This function will perform the cost calculation. The function will have two parameters (feet and price). When you call the function, you will pass two arguments to the function; feet of fiber to be installed and the cost (remember that price is dependent on the number of feet being installed).

You probably should have the following:

#1. Your program must have a header. Use the programing style guide for guidance.

#2. A welcome message

#3. A function with two parameters

#4. A call to the function

#5. The application should calculate the cost based upon the number of feet being ordered

#6. A printed message displaying the company name and the total calculated cost

In [15]:
```
# File:   DSC510_Assignment_5.py
# Name:   Kevin Paulovici
# Date:   1/12/19
# Course: DSC 510 - Introduction to Programming
# School: Bellevue University
# Desc:   This module is for week 5 programming assignment.
# completes: #1
```

In [16]:
```
# Function: main
#
# Parameter:
#   In:     none
#   Out:    none
# Returns:  none
#
# Desc:     main block of code to be executed
# Completes: #4
def main():
    welcome()
    name, feet = customer_data()
    tot_cost, install_rate = calc_cost(feet)
    print_date(name, install_rate, feet, tot_cost)
```

In [17]:
```
# Function: welcome
#
# Parameter:
#   In:     none
#   Out:    none
# Returns:  none
#
# Desc:     simple function to welcome the user (customer)
# Completes: #2
def welcome():
    print("""
    ##########################################
    ##                                      ##
    ##   Welcome to Fiber Optic Installs    ##
    ##                                      ##
    ##   We offer the following rates:      ##
    ##   $0.87/foot                         ##
    ##   $0.80/foot for 100 feet or more    ##
    ##   $0.70/foot for 250 feet or more    ##
    ##   $0.50/foot for 500 feet or more    ##
    ##                                      ##
    ##########################################
    """)
```

In [18]:
```
# Function: print_data
#
# Parameter:
#   In:     name, install_rate, feet, tot_cost
#   Out:    none
# Returns:  none
#
# Desc:     print statements to the user
# Completes: #3,6
def print_date(name, install_rate, feet, tot_cost):
    print("Welcome {}, your installation rate is ${:0.2f}/ft."
          .format(name, install_rate))
    print("Based on your installation length of {:0.2f} ft, \nyour total cost"
          " will be: ${:0.2f}.".format(feet, tot_cost))
```

In [19]:
```
# Function: customer_data
#
# Parameter:
#   In:     none
#   Out:    none
# Returns:  company_name - company input from customer
#           cable_feet - customer input of cable length (ft)
#
# Desc: Customer information requested
def customer_data():
    # waiting for user input
    company_name = input("What is your company name? ")
    while True:
        cable_feet = input("Enter the number of feet to be installed: ")

        # test cable_feet
        try:
            if float(cable_feet) > 0: break
            elif float(cable_feet) < 0:
                print("Length was not positive, converting to positive")
                break
        except:
            print("Cable feet was not a number.",
                  " Please enter a valid number")

    return company_name, abs(float(cable_feet))
```

In [20]:
```
# Function: calc_cost
#
# Parameter:
#   In:     input_length - supplied by customer
#   Out:    none
# Returns:  cost - input_length * price
#           price - determined based on length
#
# Desc:     determine cost and price
# Completes: #5
def calc_cost(input_length):
    # set price based on length
    if input_length < 100:
        price = 0.87
    elif input_length < 250:
        price = 0.80
    elif input_length < 500:
        price = 0.70
    else:
        price = 0.50

    cost = price*input_length

    return cost, price
```

In [21]:
```
# RUN THE CODE
main()
```

```
##############################################
##                                          ##
##   Welcome to Fiber Optic Installs        ##
##                                          ##
##   We offer the following rates:          ##
##   $0.87/foot                             ##
##   $0.80/foot for 100 feet or more        ##
##   $0.70/foot for 250 feet or more        ##
##   $0.50/foot for 500 feet or more        ##
##                                          ##
##############################################

What is your company name? Big Corp. 2.0
Enter the number of feet to be installed: 9000
Welcome Big Corp. 2.0, your installation rate is $0.50/ft.
Based on your installation length of 9000.00 ft,
your total cost will be: $4500.00.
```