

**def info\_Station(station\_id):**

#Allows the user to search up a specific station and obtain information about it  
#returns station name, coordinates(latitude and longitude), capacity, bikes available, docks available

#returns a dictionary with all the info

**def available\_Station(station\_id):**

#Outputs a list of all stations that have available bikes  
#Outputs the list, orders station from most number of bikes to least number of bikes

#returns list

**def show\_Directions(station\_id1, station\_id2):**

#gives user directions from station\_id1 to station\_id2  
#uses longitude and latitude of each station  
#compares the two latitudes to determine North and South  
#compares two longitudes to determine East and West  
#combines the directional results into one string

#returns string

**def bike\_Number(station\_id):**

#returns the number of bikes at station\_id

**def rent\_Bike(station\_id):**

#checks to see if a bike can be rented out  
#returns true or false  
#true if there are available bikes  
    #takes the bike out  
    #bike\_Number(station\_id) - 1  
    #informs the user they have successfully rented out a bike  
#false if there are no available bikes  
    #informs user they failed in renting out a bike

**def return\_Bike(station\_id)**

#checks if a bike has been returned

#using boolean to determine whether dock is full or not

#if true for **dock\_Availability(station\_id)**

#if false and bike\_Availability + dock\_Availability >= capacity, then tell user that they have failed to return a bike

#else the station's bike\_Availability + 1 and dock\_Availability - 1

#if true, informs user that they have successfully returned a bike

**def bike\_Availability(station\_id):**

#Checks to see whether or not if the bikes are available

#return true if num\_bikes\_available > 0, else return false

**def dock\_Number(station\_id):**

#returns the number of docks at station\_id

**def dock\_Full(station\_id):**

#returns if the capacity of the station is filled

#returns the list

**def dock\_Availability(station\_id):**

#Checks to see if there is an available dock

#returns true if **dock\_Number()** > 0, else returns false

**def user\_Interface():**

#Asks if the user would like to check on bike availability, and if they would like to rent a bike

#or if they would like to return a bike

#if user would like to check all stations

#returns the list of available stations

#call **available\_Station()**

#returns the list of unavailable stations/full docks

#call **dock\_full()**

#if the user would like to travel from one station to another station

#tells user to enter a specific station\_id and another station\_id that they would like to go to

#call **show\_Direction()**

#if user would like to check on the bike availability at a specific station

#Asks the user to enter the preferred station

#calls the function **bike\_availability(station\_id)**

#if **bike\_Availability(station\_id)** returns true, returns the no. of bikes to the user

#if user would like to rent a bike

#asks user to enter their preferred station\_id

#call **rent\_Bike(station\_id):**

#if the user would like to return a bike

#asks user to enter their preferred station\_id

#call **return\_Bike()**

**def main():**

#Runs the application

#Calls the function user\_interface()

main()