“Homework13” Justin Minsk

1.

# 1. change the letter to its pair then search for that new string  
# Make a statement that reads each letter then saves it's complement into a new string.  
def complement(dna):  
 comp = ''  
 for letter in dna:  
 if letter == 'A' or letter == 'a':  
 comp += 'T'  
 if letter == 'T' or letter == 't':  
 comp += 'A'  
 if letter == 'G' or letter == 'g':  
 comp += 'C'  
 if letter == 'C' or letter == 'c':  
 comp += 'G'  
 print(comp)  
 return comp  
  
  
if \_\_name\_\_ == '\_\_main\_\_':  
 complement('ACTCGCTTCGCTATAAGCTAGGCAT')

2.

#list = [2, 3, 4, 5, 6, 7, 1, 4]  
#index = 0  
#for item in list:  
# smallest\_index = 0  
# smallest\_number = list[0]  
# if list[index] < smallest\_number:  
# smallest\_index = index  
# smallest\_number = item  
  
  
def min\_index(num\_list):  
 smallest\_index = 0  
 index = 0  
 smallest\_number = num\_list[0]  
 for item in num\_list:  
 if item < smallest\_number:  
 smallest\_index = index  
 smallest\_number = item  
 index += 1  
 result = (smallest\_number, smallest\_index)  
 print(result)  
 return result  
  
  
def min\_or\_max\_index(num\_list, t\_or\_f):  
 index = 0  
 smallest\_number = num\_list[0]  
 largest\_number = num\_list[0]  
 if t\_or\_f:  
 smallest\_index = 0  
 for item in num\_list:  
 if item < smallest\_number:  
 smallest\_index = index  
 smallest\_number = item  
 index += 1  
 result = (smallest\_number, smallest\_index)  
 print(result)  
 return result  
 else:  
 largest\_index = 0  
 for item in num\_list:  
 if item > largest\_number:  
 largest\_index = index  
 largest\_number = item  
 index += 1  
 result = (largest\_number, largest\_index)  
 print(result)  
 return result  
  
  
if \_\_name\_\_ == '\_\_main\_\_':  
 main\_list = [2, 3, 4, 5, 6, 7, 1, 4]  
 min\_index(main\_list)  
 min\_or\_max\_index(main\_list, False)

3.

def dutch\_flag(flag\_list):  
 end\_list = []  
 for item in flag\_list:  
 if item == 'red':  
 end\_list.insert(0, 'red')  
 if item == 'green':  
 index = 0  
 for color in end\_list:  
 if color != 'red':  
 end\_list.insert(index, 'green')  
 break  
 index += 1  
 if item == 'blue':  
 index = 0  
 for color in end\_list:  
 index += 1  
 end\_list.insert(index, 'blue')  
 print(end\_list)  
 return end\_list  
  
  
if \_\_name\_\_ == '\_\_main\_\_':  
 flag\_list = ['green','red','blue','green','red','green','blue','green','blue','green','blue','red','blue','red',  
 'green','green','green','green']  
 dutch\_flag(flag\_list)