

Lab 6: 2.3

```
while True:
    N = raw_input('Enter a nonnegative integer: ')
    try:
        # Convert the input string to an int.
        N = int(N)
        # Valid input. Terminate the loop.
        if N>0:
            break
    except ValueError:
        # Invalid input. Inform the user and the
        # iteration continues.
        print 'N must have type int and N > 0'
```

Lab 6: 4.2.

```
x.sort()
```

```
m = n/2
```

```
return x[m]
```

```
x.sort()
```

```
Return x[lenx(x)-10:]
```

Lab 6: 4.3.(a,b)

```
n = 1000000
x = randlist(0,1,N)
A = x[:N-1]
B = x[1:]
C = Add(A,B)
n = n - C.count(1)
```

```
A = randlist(1,6,10000)
B = randlist(1,6,10000)
C = randlist(1,6,10000)
D = Add(A,Add(B,C))
Prob = D.count(7)/10000.
```

Lab 7: 2(d)

```
b = []  
for s in a:  
    B1 = s.count(s[0])==1  
    B2 = s.count(s[1])==1  
    B3 = s.count(s[2])==1  
    if B1 and B2 and B3:  
        b.append(s)
```

Lab 7: 3(b)

```
for k in range(28):  
    dk = sqrt((x[k]-300)**2+(y[k]-200)**2)  
    if dk<=400:  
        print C[k]
```

Lab 7: 5(a)(b)

Any list `a` for which `a[2]` is the smallest value in `a[2:]`

```
a = [10,20,30,90,100]
```

```
def SelectionSort(a):  
    n = len(a)  
    b = list(a)  
    for k in range(n):  
        Select(b,k)  
        # b[0:(k+1)] is sorted  
    return b
```

Lab 8: 4(a)(b)

3**I

```
ShowTriPartition([-5, 5, 5], [-5, -5, 5], 3)
```

```
ShowTriPartition([-5, 5, -5], [-5, 5, 5], 3)
```

Lab 9: 2.2

```
count = 0
For k in range(100):
    D= RandomDisk(10)
    ShowDisk(D)
    d = Dist(Point(0,0),D)
    if d<=5:
        count+=1
```


Lab 9: 2.3

```
L = []
for k in range(500):
    D = RandomDisk(10)
    L.append(D)
For D in L:
    C = D.center
    r = D.radius
    if abs(C.x)+r<=10 and abs(C.y)+r<=10:
        ShowDisk(D)
```

Lab 9: 2.4

```
L = []
for k in range(50):
    D = RandomDisk(10)
    L.append(D)
for k in range(50):
    D = L[k]
    if outsideAll(D, L[:k]+L[k+1:]):
        ShowDisk(D)
```

Lab 9: 2.5

```
n = 10
L = []
TotalA = 0
While TotalA < 2*n**2:
    D = RandomDisk(n)
    if outsideAll(D,L):
        L.append(D)
        TotalA += D.area()
        ShowDisk(D)
```

Lab 9: 4(a)(b)(c) -Corrected Versions

```
k=0
for d in D1:
    if d in D2:
        k+=1
```

```
k=0
for d in D1:
    if d not in D2:
        k+=1
For d in D1
    if d not in D1
        k+=1
```

```
k=0
for d in D1:
    if d in D2 and D1[d]==D2[d]
        k+=1
```

Lab 9: 5(a)(b)(c)(d)

(a) All the words that occur 100 or more times

(b) The total number of words in the sonnet collection

(c) The number of words that occur 100 or more times

(d) Prints all the words that have length 10 or greater

Lab 9: 4(a)(b)(c) -Corrected Versions

```
k=0
for d in D1:
    if d in D2:
        k+=1
```

```
k=0
for d in D1:
    if d not in D2:
        k+=1
For d in D1
    if d not in D1
        k+=1
```

```
k=0
for d in D1:
    if d in D2 and D1[d]==D2[d]
        k+=1
```