1.Perfect square problem

PERFECTSQUARE(K)

low<-0

sqrt<-0

mid<-0

high<-K

h<-1

WHILE(high-low>0.1 and h=1)

mid<-(high+low)/2

IF(mid\*mid=K)

sqrt<-mid

h<-0

ELSE IF(mid\*mid>K)

high<-mid

ELSE

low<-mid

IF(sqrt=0)

sqrt<-mid

d<-int(sqrt)

RETURN d\*d

2. The run time for shuffle problem is O(n)

The run time for the problem of the number of trailing 0s in a factorial number is O(nlogn).

3. matrice problem

MULTIPLICATION(B,C,A,N)

FOR i<-1 to N

FOR j<-1 to N

A[i][j]<-A[i][j]+B[i][j]\*C[j][i]

SUBTRACTION(A,D,E,N)

FOR i<-1 to N

FOR j<-1 to N

E[i][j]<-A[i][j]-D[i][j];

ADDITIONAL(B,C,D,N)

FOR i<-1 to N

FOR j<-1 to N

D[i][j]<-B[i][j]+C[i][j];

The run time of matrix problem is O(n^2)