MATH-6800
Vignesh Ramakrishnan
RIN: 662028006
Due: Thursday December 8, 2022

MATH 6800: Problem Set 9

1. (10 pts) Let $A \in \mathbb{R}^{m\times m}$ be a real symmetric matrix with eigenvalues λ_i and orthonormal eigenvectors $q_i, i = 1, 2, \ldots, m$.

   (a) Prove that for any vector $x \in \mathbb{R}^m$, the Rayleigh quotient $r(x)$, lies in the interval $[\lambda_{min}, \lambda_{max}]$, where λ_{min} is the smallest eigenvalue and λ_{max} the largest eigenvalue of A.

   The Rayleigh quotient is given as:

   $$r(x) = \frac{x^T A x}{x^T x}$$

   Since, A has orthonormal eigenvectors q_i, they should span the space $\mathbb{R}^m$. Hence, $x = \sum_{i=1}^m c_i q_i$

   $$\begin{aligned} r(x) &= \frac{\left(\sum_{i=1}^m c_i q_i\right)^T A \left(\sum_{i=1}^m c_i q_i\right)}{\left(\sum_{i=1}^m c_i q_i\right)^T \left(\sum_{i=1}^m c_i q_i\right)} \\ &= \frac{\left(\sum_{i=1}^m c_i q_i\right)^T \sum_{i=1}^m c_i \lambda_i q_i}{\sum_{i=1}^m c_i^2} \\ &= \frac{\sum_{i=1}^m c_i^2 \lambda_i}{\sum_{i=1}^m c_i^2} \end{aligned}$$

   Since, all $c_i^2 \geq 0$, $r(x) \in [\lambda_{min}, \lambda_{max}]$.

   (b) Suppose that the eigenvalues of A satisfy,

   $$|\lambda_1| > |\lambda_2| > |\lambda_3| > \ldots > |\lambda_{m-1}| > |\lambda_m| \tag{1}$$

   Given an initial guess $v^{(0)}$, how fast would the power method converge (in exact arithmetic) if

   $$q_1^T v^{(0)} = 0,\ q_i^T v^{(0)} \neq 0,\ i = 2, 3, \ldots, m \tag{2}$$

   Explain your result. What would likely happen using floating point arithmetic with finite precision ?

   We can write $v^{(0)} = c_1 q_1 + c_2 q_2 + \ldots + c_m q_m$. Multiplying by q_1^T gives us $c_1 = 0 \implies v^{(0)} = c_2 q_2 + \ldots c_m q_m$.

   $$\begin{aligned} v^{(k)} &= h_k A^k v^{(0)} \\ &= h_k A^k \left(c_2 q_2 + \ldots + c_m q_m\right) \\ &= h_k \left(c_2 \lambda_2^k q_2 + \ldots + c_m \lambda_m^k q_m\right) \end{aligned}$$

This means, we can't find the largest eigenvalue λ_1 even if $k \to \infty$.
In floating point arithmetic, $c_1 = \mathcal{O}(\varepsilon)$.

$$\begin{aligned} v^{(k)} &= h_k A^k v^{(0)} \\ &= h_k \left(\mathcal{O}(\varepsilon)\lambda_1^k q_1 + c_2 \lambda_2^k q_2 + \ldots + c_m \lambda_m^k q_m \right) \\ &= h_k \lambda_1^k \left(\mathcal{O}(\varepsilon) q_1 + c_2 q_2 \frac{\lambda_2^k}{\lambda_1^k} + \ldots + c_m q_m \frac{\lambda_m^k}{\lambda_1^k} \right) \end{aligned}$$

This means,

$$\begin{aligned} \left|\left| v^{(k)} - \pm q_1 \right|\right| &= \left|\left| q_1 (h_k \lambda_1^k \mathcal{O}(\varepsilon) - \pm 1) + h_k \lambda_1^k \left(c_2 q_2 \frac{\lambda_2^k}{\lambda_1^k} + \ldots + c_m q_m \frac{\lambda_m^k}{\lambda_1^k} \right) \right|\right| \\ &\leq \left|\left| q_1 (h_k \varepsilon \lambda_1^k \pm 1) \right|\right| + \left|\left| h_k \lambda_1^k \left(c_2 q_2 \frac{\lambda_2^k}{\lambda_1^k} + \ldots + c_m q_m \frac{\lambda_m^k}{\lambda_1^k} \right) \right|\right| \\ \implies &= \mathcal{O}\left(\varepsilon \left| \lambda_1 \right|^k \right) + \mathcal{O}\left(\left| \frac{\lambda_2}{\lambda_1} \right|^k \right) \end{aligned}$$

2. (20 pts) Let A be the $m \times m$ tridiagonal matirx with entries

$$\begin{aligned} a_{i,i-1} &= -1, \\ a_{ii} &= 4 + i, \\ a_{i,i+1} &= -1. \end{aligned}$$

(a) Write a Matlab code to use the power method to find the largest eigenvalue (denoted by λ) and corresponding eigenvector (denoted by v). Take $m = 10$ and use an initial guess of

$$v^{(0)} = [1, 1, 1, \ldots, 1]^T . \tag{3}$$

Use the Matlab function **eig** to compute the exact answer for comparison. Perform **maxit = 25** iterations, and at each iteration k, print the current estimate $\lambda^{(k)}$, the 2-norm of the error in $v^{(k)}$ and the ratio of the 2-norm error in $v^{(k)}$ at step k to the previous step $k-1$. Use the following statement to output the result:

```
fprintf('k=%4d, lambda=%18.14f, error=%8.2e, v-err=%8.2f, ...
        ratio=%8.5f',k,lambda,abs(lambda-lambda1),vErr,ratio);
```

The convergence rate indicated by **ratio** should approach a certain value. Explain where this value comes from.

Matlab function **powerIteration**$(A, v0, maxit, l\_ex, q\_ex)$ is written to find out λ_{max}. It is included in Listing 1. The convergence rate indicated by **ratio** approaches the ratio of $\left|\frac{\lambda_2}{\lambda_1}\right|$, where $|\lambda_1| > |\lambda_2|$. Using **eig**, $|\lambda_2| = 13.2107$, $|\lambda_1| = 14.75462$ and **ratio** $= 0.8959$. Fig 1 shows the command window for the problem under consideration.

```
function lambda_f = powerIteration(A,v0,maxit,l_ex, q_ex)

[m,~] = size(A);
v = zeros(m,maxit+1);
```

```
lambda = zeros(maxit,1);
v(:,1) = v0;
for k=2:maxit+1
    w = A*v(:,k-1);
    v(:,k) = w/norm(w,2);
    lambda(k-1) = v(:,k)'*A*v(:,k);
    error = abs(lambda(k-1)-l_ex);
    vErr  = norm(v(:,k)-q_ex,2);
    ratio = vErr/norm( v(:,k-1)-q_ex,2 );
    fprintf('k=%4d, lambda=%18.14f, error=%8.2e, vErr=%8.2e, ratio=%8.5f\n',k-1,...
            lambda(k-1), error, vErr, ratio);
end

lambda_f = lambda(end);

end
```

Listing 1: **powerIteration**$(A, v0, maxit, l\_ex, q\_ex)$

```
k=   1, lambda=  9.73707533234860, error=5.01e+00, vErr=1.25e+00, ratio= 0.94465
k=   2, lambda= 11.05988335914097, error=3.69e+00, vErr=1.17e+00, ratio= 0.93520
k=   3, lambda= 11.89831252031907, error=2.85e+00, vErr=1.09e+00, ratio= 0.92760
k=   4, lambda= 12.50570116419184, error=2.24e+00, vErr=1.00e+00, ratio= 0.91975
k=   5, lambda= 12.98000433803850, error=1.77e+00, vErr=9.13e-01, ratio= 0.91246
k=   6, lambda= 13.35850150944157, error=1.39e+00, vErr=8.27e-01, ratio= 0.90632
k=   7, lambda= 13.66027653534852, error=1.09e+00, vErr=7.46e-01, ratio= 0.90152
k=   8, lambda= 13.89894732993262, error=8.47e-01, vErr=6.70e-01, ratio= 0.89801
k=   9, lambda= 14.08609281596197, error=6.60e-01, vErr=6.00e-01, ratio= 0.89560
k=  10, lambda= 14.23187724497717, error=5.14e-01, vErr=5.36e-01, ratio= 0.89406
k=  11, lambda= 14.34499977932975, error=4.01e-01, vErr=4.79e-01, ratio= 0.89315
k=  12, lambda= 14.43264659258538, error=3.14e-01, vErr=4.27e-01, ratio= 0.89270
k=  13, lambda= 14.50057846347998, error=2.46e-01, vErr=3.82e-01, ratio= 0.89256
k=  14, lambda= 14.55331497121092, error=1.93e-01, vErr=3.41e-01, ratio= 0.89261
k=  15, lambda= 14.59435296089282, error=1.52e-01, vErr=3.04e-01, ratio= 0.89278
k=  16, lambda= 14.62637667282058, error=1.20e-01, vErr=2.72e-01, ratio= 0.89302
k=  17, lambda= 14.65143932001440, error=9.48e-02, vErr=2.43e-01, ratio= 0.89328
k=  18, lambda= 14.67111067046611, error=7.51e-02, vErr=2.17e-01, ratio= 0.89356
k=  19, lambda= 14.68659271450290, error=5.96e-02, vErr=1.94e-01, ratio= 0.89382
k=  20, lambda= 14.69880839615397, error=4.74e-02, vErr=1.73e-01, ratio= 0.89407
k=  21, lambda= 14.70846887241110, error=3.77e-02, vErr=1.55e-01, ratio= 0.89430
k=  22, lambda= 14.71612420461681, error=3.01e-02, vErr=1.39e-01, ratio= 0.89450
k=  23, lambda= 14.72220150134279, error=2.40e-02, vErr=1.24e-01, ratio= 0.89469
k=  24, lambda= 14.72703365081295, error=1.92e-02, vErr=1.11e-01, ratio= 0.89485
k=  25, lambda= 14.73088102660057, error=1.53e-02, vErr=9.93e-02, ratio= 0.89500
|| v^k - ((+-)q_ex)|| = 6.40e-02 = O(|lambda_2/lambda_1|^k)
|lambda^k -lambda| = 4.10e-03 = O(|lambda_2/lambda_1|^(2k))
```

Figure 1: command window of Q2.a

(b) Write a Matlab code to use the Rayleigh quotient iteration to find a eigenvalue/eigenvector pair of A. Take $m = 10$ and choose the initial guess

$$v^{(0)} = [1, 1, 1, \ldots, 1]^T, \ \lambda^{(0)} = 10.5 \tag{4}$$

Perform **maxit** $= 5$ iterations, and at each iteration k print the current estimate $\lambda^{(k)}$, the error in $\lambda^{(k)}$, the 2-norm of the error in the eigenvector $v^{(k)}$ and the ratio of the error in $v^{(k)}$ at step k to *cube of the error* at the previous step $k-1$ (e.g. **ratio** $=$ **vErr**$/($**vErrOld**$^3)$). Use the following statement to output the result:

```
fprintf('k=%4d lambda=%18.14f, error=%8.2e, v-err=%8.2e,...
        ratio=%8.5f\n',k,lambda,abs(lambda-lambda1),vErr,ratio);
```

Matlab function **rayleighQuotient**$(A, v0, l0, maxit, l\_ex, q\_ex)$ is written in order to observe cubic convergence. The command window of convergence is shown in Fig 2.

```
function [lambda_f,v] = rayleighQuotient(A,v0,l0,maxit,l_ex,q_ex)

[m,~] = size(A);
lambda = zeros(maxit+1,1);
v = zeros(m,maxit+1);
v(:,1) = v0;
% lambda(1) = v(:,1)'*A*(v(:,1));
lambda(1)= l0;
I = eye(m);
vErrOld = norm(v(:,1)-q_ex,2);

for k=2:maxit+1
    w = (A-lambda(k-1)*I)\v(:,k-1);
    v(:,k) = w/norm(w,2);
    lambda(k) = v(:,k)'*A*v(:,k);

    error = abs(lambda(k)-l_ex);
    if (mod(k,2)==0)
        vErr  = norm(v(:,k)+q_ex,2);
    else
        vErr  = norm(v(:,k)-q_ex,2);
    end

    ratio = vErr/vErrOld^3;
    fprintf('k=%4d, lambda=%18.14f, error=%8.2e, vErr=%8.2e, ratio=%8.5f
    \n',...
        k-1,lambda(k),error,vErr,ratio );
    fprintf('| lambda(k+1) - lambda | = %8.2e = O(| lambda(k) - lambda
    |^3) \n',...
            (abs(lambda(k-1)-l_ex))^3 );
    vErrOld = vErr;
end
lambda_f = lambda(end);
end
```

Listing 2: **rayleighQuotient**$(A, v0, l0, maxit, l\_ex, q\_ex)$

The script written to generate matrix A and call these functions are in Listing 3.

```
clc
clear
%% Q2.a
m = 10;
A = zeros(m);

for i=1:m
    if i~=1 && i~=m
        A(i,i-1) = -1;
        A(i,i)   = 4+i;
```

```
k=   1, lambda= 10.30565571901764, error=3.05e-01, vErr=8.05e-01, ratio= 0.49953
| lambda(k+1) - lambda | = 1.25e-01 = O(| lambda(k) - lambda |^3)
k=   2, lambda= 10.14294003846173, error=1.43e-01, vErr=4.00e-01, ratio= 0.76525
| lambda(k+1) - lambda | = 2.85e-02 = O(| lambda(k) - lambda |^3)
k=   3, lambda= 10.00485453039090, error=4.64e-03, vErr=6.94e-02, ratio= 1.08508
| lambda(k+1) - lambda | = 2.91e-03 = O(| lambda(k) - lambda |^3)
k=   4, lambda= 10.00021762235017, error=1.00e-07, vErr=3.22e-04, ratio= 0.96383
| lambda(k+1) - lambda | = 9.97e-08 = O(| lambda(k) - lambda |^3)
k=   5, lambda= 10.00021752225710, error=1.78e-15, vErr=3.21e-11, ratio= 0.95997
| lambda(k+1) - lambda | = 1.00e-21 = O(| lambda(k) - lambda |^3)
```

Figure 2: command window of Q2.b

```
        A(i,i+1) = -1;
    else
        A(i,i) = 4+i;
        if i==1
            A(i,i+1) = -1;
        else
            A(i,i-1) = -1;
        end
    end
end

v0 = ones(m,1);
v0 = v0/norm(v0,2);
maxit = 25;
[q_m,l_m] = eig(A);
for i=1:m
    l_m_vec(i) = l_m(i,i);
end
[l_ex,col] = max(l_m_vec);
q_ex = q_m(:,col);

lambda_p = powerIteration(A,v0,maxit,l_ex,q_ex);
fprintf('|| v^k - ((+-)q_ex)|| = %8.2e = O(|lambda_2/lambda_1|^k) \n',...
            abs(l_m_vec(9)/l_ex)^maxit);
fprintf('|lambda^k -lambda| = %8.2e = O(|lambda_2/lambda_1|^(2k))\n',...
            abs(l_m_vec(9)/l_ex)^(2*maxit));
%% Q2.b
clc
maxit = 5;
l0 = 10.5;
[lambda_r,v_r] = rayleighQuotient(A,v0,l0,maxit,l_m_vec(6),q_m(:,6));
```

Listing 3: Q2 script

3. (20 pts) QR program. Let $A \in \mathbb{R}^{m\times m}$ be the real symmetric tridiagonal matrix with 2 on the diagonal and -1 on the subdiagonal and superdiagonal.

$$A = \begin{bmatrix} 2 & -1 & & & \\ -1 & 2 & -1 & & \\ & -1 & 2 & -1 & \\ & & \ddots & \ddots & \ddots \\ & & & -1 & 2 \end{bmatrix}$$

Let $\delta(k)$ denote the maximum of the absolute values of the off-diagonal entries of the QR matrix $A^{(k)}$.
Write a program that computes the eigenvalues of A using the UNSHIFTED QR eigenvalue algorithm using the Matlab **qr** function. After each 10 iterations, $k = 10, 20, 30, \ldots$, print $k, \delta(k)$ and the convergence ratio $r(k) = \delta(k)/\delta(k-1)$. For example, you could use a statement such as

```
fprintf('QR: k=%d : delta%8.2e, ratio=%5,3f\n',k,delta,delta/deltaOld);
```

Continue iterating until $\delta(k) < \text{tol} = 10^{-5}$.

- Show results for $m = 11$. (Hint: you may want to test your code using a smaller value of m).
  Included in Figure 3.
- After convergence print the eigenvalues found.
  Included in Figure 3.
- Also print the maximum error in the eigenvalues compared to those obtained from the Matlab routine **eig** (Hint: you may want to use the Matlab **sort** function to sort the eigenvalues before comparing).
  Included in Figure 3.
- What is the numerically observed asymptotic convergence ratio $r(k)$? Is the convergence linear? Can you relate the convergence rate to the eigenvalues of A?
  The numerically converged ratio at the final iteration is $r(203) = 0.949184032947667$. The convergence was linear. Here (for values of $\delta(203), C$ refer Figure 3),

$$C = \max_{1 \le k \le m} \left| \frac{\lambda_k}{\lambda_{k-1}} \right|,$$
$$|\lambda_1| > |\lambda_2| > \ldots > |\lambda_m|,$$
$$\delta(k) = \mathcal{O}\left(C^k\right)$$

  As, $\delta(203) = 9.74e-06$ and $C^{203} = 2.5243e-05$, you can see they are almost of the same order.

Matlab function **pureQR**$(A, maxit)$ is shown in Listing 4 and the script written to generate matrix A and compute its eigenvalues are in Listing 5. The command window displaying all the solutions are shown in Figure 3.

```
function [L,del,kc] = pureQR(A,maxit)

L = A;
deltaOld = maxAbsOffDiag(L);
tol = 1e-5;
for k=1:maxit
    [Qk,Rk] = qr(L);
    L = Rk*Qk;
    delta = maxAbsOffDiag(L);
    ratio = delta/deltaOld;
    del(k) = ratio;
    if (mod(k,10)==0)
        fprintf('QR: k = %d, delta = %8.2e, ratio = %5.3f \n',...
            k, delta, ratio);
    end
```

```
    if (delta < tol)
        fprintf('Converged with tolerance delta = %8.2e at iteration = %d\n',
    delta,k);
        kc = k;
        break;
    end
    deltaOld = delta;
end

end
```

Listing 4: **pureQR**$(A, maxit)$

```
%% Q3
clc
clear
m = 11;
maxit = 1000;
A = zeros(m);

for i=1:m
    if i~=1 && i~=m
        A(i,i-1) = -1;
        A(i,i)   = 2;
        A(i,i+1) = -1;
    else
        A(i,i) = 2;
        if i==1
            A(i,i+1) = -1;
        else
            A(i,i-1) = -1;
        end
    end
end

[L,del,kc] = pureQR(A,maxit);
l_m = eig(A);
for i=1:m
    l_qr(i,1) = L(i,i);
end

l_qr = sort(l_qr);
disp("Eigenvalues sorted : ");
disp(l_qr);

maxErr = max(abs(l_qr-l_m));
fprintf('maxErr =%8.2e \n', maxErr);

al_qr = sort(abs(l_qr));
max = al_qr(1)/al_qr(2);
for i=1:m-1
    t = al_qr(i)/al_qr(i+1);
    if t > max
        max = t;
    end
end
fprintf('C = %5.3f = ratio(kc)\n', max);
```

Listing 5: Q3 script

```
QR: k = 10, delta = 4.83e-01, ratio = 0.920
QR: k = 20, delta = 1.77e-01, ratio = 0.937
QR: k = 30, delta = 8.19e-02, ratio = 0.918
QR: k = 40, delta = 4.56e-02, ratio = 0.954
QR: k = 50, delta = 2.79e-02, ratio = 0.951
QR: k = 60, delta = 1.68e-02, ratio = 0.950
QR: k = 70, delta = 1.00e-02, ratio = 0.949
QR: k = 80, delta = 5.95e-03, ratio = 0.949
QR: k = 90, delta = 3.53e-03, ratio = 0.949
QR: k = 100, delta = 2.10e-03, ratio = 0.949
QR: k = 110, delta = 1.24e-03, ratio = 0.949
QR: k = 120, delta = 7.39e-04, ratio = 0.949
QR: k = 130, delta = 4.39e-04, ratio = 0.949
QR: k = 140, delta = 2.60e-04, ratio = 0.949
QR: k = 150, delta = 1.55e-04, ratio = 0.949
QR: k = 160, delta = 9.18e-05, ratio = 0.949
QR: k = 170, delta = 5.45e-05, ratio = 0.949
QR: k = 180, delta = 3.23e-05, ratio = 0.949
QR: k = 190, delta = 1.92e-05, ratio = 0.949
QR: k = 200, delta = 1.14e-05, ratio = 0.949
Converged with tolerance delta = 9.74e-06 at iteration = 203
Eigenvalues sorted :
    0.0681
    0.2679
    0.5858
    1.0000
    1.4824
    2.0000
    2.5176
    3.0000
    3.4142
    3.7321
    3.9319

maxErr =4.75e-10
C = 0.949 = ratio(kc)
>>
```

Figure 3: command window for Q3

4. (20 pts) Shited QR program. Repeat question (3) but with writing a code using the SHIFTED QR eigenvalue algorithm with deflation (you may write a new code or write one code that can use a shift or not). Choose the shift based on the Wilkinson shift. The eigenvalues should converge from the *bottom* right corner. When the off-diagonal entry next to the bottom corner has a magnitude less than tol $= 10^{-5}$, declare the eigenvalue to be converged and deflate the matrix to be one dimension less by eliminating the last row and last column. Continue the shifted QR with deflation on the remaining smaller matrix.

   - Show results for $m = 11$.
     Included in (pages 1-14) Figure 4.
   - After *each* QR iteration, $k = 1, 2, 3, \ldots$, print k, the shift $\mu(k)$, the current dimension of the matrix $m(k)$, the value of $\delta(k)$ and the convergence ratio $r(k) = \delta(k)/\delta(k-1), k = 1, 2, \ldots$. Continue iterating until all eigenvalues have been found.
     Included in (page 1-14) Figure 4.
   - After convergence print the eigenvalues found.
     Included in (page 14) Figure 4.
   - Also print the maximum error in the eigenvalues compared to those obtained from the Matlab routine **eig**.
     Included in (page 14) Figure 4.
   - How does the convergence of the shifted QR algorithm compare to the unshifted. Does the convergence rate look linear?
     Here, the error for each deflated matrix starting from $m = 11$ to $m = 2$ are independently showing linear convergence. But overall, it doesnt show linear convergence.

   Matlab function **shiftedQR**$(A, maxit)$ is in Listing 6 and the script to generate the matrix and run this problem is in Listing 7. The solutions are attached in Figure 4.

```
function [lambda,d,kc] = shiftedQR(A,maxit)

[~,H] = hessenberg(A);
L = H;
[m,~] = size(A);
tol = 1e-5;
lambda = zeros(m,1);

deltaOld = maxAbsOffDiag(L);
numEig = 0;

for k=1:maxit
    if m==1
        kc = k;
        numEig = numEig+1;
        lambda(numEig) = L(1,1);
        disp('converged');
        break;
    end
    I = eye(m);
    L = L(1:m,1:m);
    mk = wilkinsonShift(L);
    [Qk,Rk] = qr(L-mk*I);
    L = Rk*Qk + mk*I;
    delta = maxAbsOffDiag(L);
    ratio = delta/deltaOld;
```

```
    d(k) = ratio;
    fprintf('k=%d,shift(k)=%18.14f,m(k)=%d,delta(k)=%8.2e,ratio(k)=%8.5f\n'
    ,...
            k,mk,m,delta,ratio);
    deltaOld = delta;

    if (abs(L(m,m-1))< tol || abs(L(m-1,m))<tol)
        fprintf('Eigenvalue found, lambda=%18.14f \n', L(m,m));
        numEig = numEig + 1;
        lambda(numEig) = L(m,m);
        m = m - 1;
    end

end

end
```

Listing 6: **shiftedQR**$(A, maxit)$

```
clc
clear
m = 11;
maxit = 1000;
A = zeros(m);

for i=1:m
    if i~=1 && i~=m
        A(i,i-1) = -1;
        A(i,i)   = 2;
        A(i,i+1) = -1;
    else
        A(i,i) = 2;
        if i==1
            A(i,i+1) = -1;
        else
            A(i,i-1) = -1;
        end
    end
end
l_m = eig(A);
[l_sqr,del,kc] = shiftedQR(A,maxit);
disp('Sorted Eigenvalues are: ');
disp(sort(l_sqr));
maxErr = max(abs(sort(l_sqr)-l_m));
fprintf('maxErr = %8.2e \n', maxErr);
```

Listing 7: Q4 script

```
k=1,shift(k)=  1.00000000000000,m(k)=11,delta(k)=1.22e+00,ratio(k)= 1.22474
Eigenvalue found, lambda=  1.00000000000000
k=2,shift(k)=  2.73214285714286,m(k)=10,delta(k)=1.43e+00,ratio(k)= 1.16988
k=3,shift(k)=  4.66612016350531,m(k)=10,delta(k)=1.21e+00,ratio(k)= 0.84356
k=4,shift(k)=  6.41910616617420,m(k)=10,delta(k)=1.08e+00,ratio(k)= 0.89334
k=5,shift(k)=  5.71589521598939,m(k)=10,delta(k)=1.17e+00,ratio(k)= 1.08291
k=6,shift(k)=  5.67053736498980,m(k)=10,delta(k)=1.22e+00,ratio(k)= 1.04209
k=7,shift(k)=  7.38259394802086,m(k)=10,delta(k)=1.07e+00,ratio(k)= 0.88131
k=8,shift(k)=  6.85556363298719,m(k)=10,delta(k)=1.01e+00,ratio(k)= 0.93792
k=9,shift(k)=  6.36787782476205,m(k)=10,delta(k)=1.14e+00,ratio(k)= 1.13182
k=10,shift(k)=  6.00083910737372,m(k)=10,delta(k)=1.10e+00,ratio(k)= 0.96085
k=11,shift(k)=  5.84981060762899,m(k)=10,delta(k)=9.24e-01,ratio(k)= 0.84371
k=12,shift(k)=  5.99015356171707,m(k)=10,delta(k)=7.96e-01,ratio(k)= 0.86101
k=13,shift(k)=  6.40699909882951,m(k)=10,delta(k)=6.36e-01,ratio(k)= 0.79941
k=14,shift(k)=  6.99469080305070,m(k)=10,delta(k)=5.85e-01,ratio(k)= 0.91950
k=15,shift(k)=  7.65084236842359,m(k)=10,delta(k)=5.95e-01,ratio(k)= 1.01802
k=16,shift(k)=  8.31788033682743,m(k)=10,delta(k)=5.96e-01,ratio(k)= 1.00074
k=17,shift(k)=  8.96909275569967,m(k)=10,delta(k)=5.87e-01,ratio(k)= 0.98570
k=18,shift(k)=  9.59284991844250,m(k)=10,delta(k)=5.72e-01,ratio(k)= 0.97345
k=19,shift(k)= 10.18454289169625,m(k)=10,delta(k)=5.51e-01,ratio(k)= 0.96382
k=20,shift(k)= 10.74291434109595,m(k)=10,delta(k)=5.27e-01,ratio(k)= 0.95641
k=21,shift(k)= 11.26835184365611,m(k)=10,delta(k)=5.01e-01,ratio(k)= 0.95081
k=22,shift(k)= 11.76205318400997,m(k)=10,delta(k)=4.74e-01,ratio(k)= 0.94663
k=23,shift(k)= 12.22559811094811,m(k)=10,delta(k)=4.48e-01,ratio(k)= 0.94358
k=24,shift(k)= 12.66072050361658,m(k)=10,delta(k)=4.21e-01,ratio(k)= 0.94140
k=25,shift(k)= 13.06918455416562,m(k)=10,delta(k)=3.96e-01,ratio(k)= 0.93989
k=26,shift(k)= 13.45271729516567,m(k)=10,delta(k)=3.72e-01,ratio(k)= 0.93889
k=27,shift(k)= 13.81297268438531,m(k)=10,delta(k)=3.49e-01,ratio(k)= 0.93828
k=28,shift(k)= 14.15151379071763,m(k)=10,delta(k)=3.27e-01,ratio(k)= 0.93798
k=29,shift(k)= 14.46980550832058,m(k)=10,delta(k)=3.07e-01,ratio(k)= 0.93790
k=30,shift(k)= 14.76921341036566,m(k)=10,delta(k)=2.88e-01,ratio(k)= 0.93799
k=31,shift(k)= 15.05100614024986,m(k)=10,delta(k)=2.70e-01,ratio(k)= 0.93820
k=32,shift(k)= 15.31635977144913,m(k)=10,delta(k)=2.53e-01,ratio(k)= 0.93851
k=33,shift(k)= 15.56636318042552,m(k)=10,delta(k)=2.47e-01,ratio(k)= 0.97415
k=34,shift(k)= 15.80202384869601,m(k)=10,delta(k)=2.43e-01,ratio(k)= 0.98353
k=35,shift(k)= 16.02427373929420,m(k)=10,delta(k)=2.39e-01,ratio(k)= 0.98337
k=36,shift(k)= 16.23397503587894,m(k)=10,delta(k)=2.35e-01,ratio(k)= 0.98318
k=37,shift(k)= 16.43192562278312,m(k)=10,delta(k)=2.31e-01,ratio(k)= 0.98298
k=38,shift(k)= 16.61886424116918,m(k)=10,delta(k)=2.27e-01,ratio(k)= 0.98277
k=39,shift(k)= 16.79547529232702,m(k)=10,delta(k)=2.23e-01,ratio(k)= 0.98255
k=40,shift(k)= 16.96239328154072,m(k)=10,delta(k)=2.19e-01,ratio(k)= 0.98233
k=41,shift(k)= 17.12020690968819,m(k)=10,delta(k)=2.15e-01,ratio(k)= 0.98210
k=42,shift(k)= 17.26946282782602,m(k)=10,delta(k)=2.11e-01,ratio(k)= 0.98188
k=43,shift(k)= 17.41066907447954,m(k)=10,delta(k)=2.07e-01,ratio(k)= 0.98165
k=44,shift(k)= 17.54429821747490,m(k)=10,delta(k)=2.03e-01,ratio(k)= 0.98143
k=45,shift(k)= 17.67079022276138,m(k)=10,delta(k)=2.00e-01,ratio(k)= 0.98120
k=46,shift(k)= 17.79055507235704,m(k)=10,delta(k)=1.96e-01,ratio(k)= 0.98099
k=47,shift(k)= 17.90397515267340,m(k)=10,delta(k)=1.92e-01,ratio(k)= 0.98077
k=48,shift(k)= 18.01140743326012,m(k)=10,delta(k)=1.88e-01,ratio(k)= 0.98057
k=49,shift(k)= 18.11318545465202,m(k)=10,delta(k)=1.85e-01,ratio(k)= 0.98036
k=50,shift(k)= 18.20962114257717,m(k)=10,delta(k)=1.81e-01,ratio(k)= 0.98017
k=51,shift(k)= 18.30100646437012,m(k)=10,delta(k)=1.77e-01,ratio(k)= 0.97997
k=52,shift(k)= 18.38761494207120,m(k)=10,delta(k)=1.74e-01,ratio(k)= 0.97979
k=53,shift(k)= 18.46970303539903,m(k)=10,delta(k)=1.70e-01,ratio(k)= 0.97961
k=54,shift(k)= 18.54751140659137,m(k)=10,delta(k)=1.67e-01,ratio(k)= 0.97944
k=55,shift(k)= 18.62126607797589,m(k)=10,delta(k)=1.63e-01,ratio(k)= 0.97927
k=56,shift(k)= 18.69117949213101,m(k)=10,delta(k)=1.60e-01,ratio(k)= 0.97911
k=57,shift(k)= 18.75745148354902,m(k)=10,delta(k)=1.56e-01,ratio(k)= 0.97895
```

```
k=58,shift(k)= 18.82027016987720,m(k)=10,delta(k)=1.53e-01,ratio(k)= 0.97880
k=59,shift(k)= 18.87981277003063,m(k)=10,delta(k)=1.50e-01,ratio(k)= 0.97866
k=60,shift(k)= 18.93624635578591,m(k)=10,delta(k)=1.47e-01,ratio(k)= 0.97852
k=61,shift(k)= 18.98972854282464,m(k)=10,delta(k)=1.43e-01,ratio(k)= 0.97838
k=62,shift(k)= 19.04040812663307,m(k)=10,delta(k)=1.40e-01,ratio(k)= 0.97826
k=63,shift(k)= 19.08842566815107,m(k)=10,delta(k)=1.37e-01,ratio(k)= 0.97813
k=64,shift(k)= 19.13391403359641,m(k)=10,delta(k)=1.34e-01,ratio(k)= 0.97801
k=65,shift(k)= 19.17699889247723,m(k)=10,delta(k)=1.31e-01,ratio(k)= 0.97790
k=66,shift(k)= 19.21779917742923,m(k)=10,delta(k)=1.28e-01,ratio(k)= 0.97779
k=67,shift(k)= 19.25642750917056,m(k)=10,delta(k)=1.26e-01,ratio(k)= 0.97769
k=68,shift(k)= 19.29299058956457,m(k)=10,delta(k)=1.23e-01,ratio(k)= 0.97759
k=69,shift(k)= 19.32758956550640,m(k)=10,delta(k)=1.20e-01,ratio(k)= 0.97749
k=70,shift(k)= 19.36032036609266,m(k)=10,delta(k)=1.17e-01,ratio(k)= 0.97740
k=71,shift(k)= 19.39127401531596,m(k)=10,delta(k)=1.15e-01,ratio(k)= 0.97732
k=72,shift(k)= 19.42053692231968,m(k)=10,delta(k)=1.12e-01,ratio(k)= 0.97723
k=73,shift(k)= 19.44819115106095,m(k)=10,delta(k)=1.09e-01,ratio(k)= 0.97715
k=74,shift(k)= 19.47431467106874,m(k)=10,delta(k)=1.07e-01,ratio(k)= 0.97708
k=75,shift(k)= 19.49898159083199,m(k)=10,delta(k)=1.04e-01,ratio(k)= 0.97700
k=76,shift(k)= 19.52226237521399,m(k)=10,delta(k)=1.02e-01,ratio(k)= 0.97693
k=77,shift(k)= 19.54422404816768,m(k)=10,delta(k)=9.97e-02,ratio(k)= 0.97687
k=78,shift(k)= 19.56493038191549,m(k)=10,delta(k)=9.74e-02,ratio(k)= 0.97680
k=79,shift(k)= 19.58444207365317,m(k)=10,delta(k)=9.51e-02,ratio(k)= 0.97674
k=80,shift(k)= 19.60281691075036,m(k)=10,delta(k)=9.29e-02,ratio(k)= 0.97668
k=81,shift(k)= 19.62010992532682,m(k)=10,delta(k)=9.07e-02,ratio(k)= 0.97663
k=82,shift(k)= 19.63637353902027,m(k)=10,delta(k)=8.86e-02,ratio(k)= 0.97657
k=83,shift(k)= 19.65165769868291,m(k)=10,delta(k)=8.65e-02,ratio(k)= 0.97652
k=84,shift(k)= 19.66601000368568,m(k)=10,delta(k)=8.45e-02,ratio(k)= 0.97647
k=85,shift(k)= 19.67947582545286,m(k)=10,delta(k)=8.25e-02,ratio(k)= 0.97642
k=86,shift(k)= 19.69209841979026,m(k)=10,delta(k)=8.05e-02,ratio(k)= 0.97638
k=87,shift(k)= 19.70391903253648,m(k)=10,delta(k)=7.86e-02,ratio(k)= 0.97634
k=88,shift(k)= 19.71497699900956,m(k)=10,delta(k)=7.68e-02,ratio(k)= 0.97629
k=89,shift(k)= 19.72530983769314,m(k)=10,delta(k)=7.49e-02,ratio(k)= 0.97625
k=90,shift(k)= 19.73495333856149,m(k)=10,delta(k)=7.32e-02,ratio(k)= 0.97622
k=91,shift(k)= 19.74394164641949,m(k)=10,delta(k)=7.14e-02,ratio(k)= 0.97618
k=92,shift(k)= 19.75230733959553,m(k)=10,delta(k)=6.97e-02,ratio(k)= 0.97615
k=93,shift(k)= 19.76008150429836,m(k)=10,delta(k)=6.80e-02,ratio(k)= 0.97611
k=94,shift(k)= 19.76729380493835,m(k)=10,delta(k)=6.64e-02,ratio(k)= 0.97608
k=95,shift(k)= 19.77397255066708,m(k)=10,delta(k)=6.48e-02,ratio(k)= 0.97605
k=96,shift(k)= 19.78014475838910,m(k)=10,delta(k)=6.33e-02,ratio(k)= 0.97602
k=97,shift(k)= 19.78583621246924,m(k)=10,delta(k)=6.18e-02,ratio(k)= 0.97599
k=98,shift(k)= 19.79107152134888,m(k)=10,delta(k)=6.11e-02,ratio(k)= 0.98948
k=99,shift(k)= 19.79587417126042,m(k)=10,delta(k)=6.06e-02,ratio(k)= 0.99141
k=100,shift(k)= 19.80026657722198,m(k)=10,delta(k)=6.01e-02,ratio(k)= 0.99139
k=101,shift(k)= 19.80427013147965,m(k)=10,delta(k)=5.95e-02,ratio(k)= 0.99137
k=102,shift(k)= 19.80790524954435,m(k)=10,delta(k)=5.90e-02,ratio(k)= 0.99135
k=103,shift(k)= 19.81119141397460,m(k)=10,delta(k)=5.85e-02,ratio(k)= 0.99133
k=104,shift(k)= 19.81414721603466,m(k)=10,delta(k)=5.80e-02,ratio(k)= 0.99131
k=105,shift(k)= 19.81679039534368,m(k)=10,delta(k)=5.75e-02,ratio(k)= 0.99129
k=106,shift(k)= 19.81913787764357,m(k)=10,delta(k)=5.70e-02,ratio(k)= 0.99127
k=107,shift(k)= 19.82120581077641,m(k)=10,delta(k)=5.65e-02,ratio(k)= 0.99125
k=108,shift(k)= 19.82300959898476,m(k)=10,delta(k)=5.60e-02,ratio(k)= 0.99123
k=109,shift(k)= 19.82456393561607,m(k)=10,delta(k)=5.55e-02,ratio(k)= 0.99121
k=110,shift(k)= 19.82588283432292,m(k)=10,delta(k)=5.50e-02,ratio(k)= 0.99119
k=111,shift(k)= 19.82697965883813,m(k)=10,delta(k)=5.45e-02,ratio(k)= 0.99117
k=112,shift(k)= 19.82786715140033,m(k)=10,delta(k)=5.41e-02,ratio(k)= 0.99116
k=113,shift(k)= 19.82855745989625,m(k)=10,delta(k)=5.36e-02,ratio(k)= 0.99114
k=114,shift(k)= 19.82906216379284,m(k)=10,delta(k)=5.31e-02,ratio(k)= 0.99112
k=115,shift(k)= 19.82939229891026,m(k)=10,delta(k)=5.26e-02,ratio(k)= 0.99110
```

```
k=116,shift(k)= 19.82955838110525,m(k)=10,delta(k)=5.22e-02,ratio(k)= 0.99108
k=117,shift(k)= 19.82957042891046,m(k)=10,delta(k)=5.17e-02,ratio(k)= 0.99106
k=118,shift(k)= 19.82943798518506,m(k)=10,delta(k)=5.12e-02,ratio(k)= 0.99104
k=119,shift(k)= 19.82917013782181,m(k)=10,delta(k)=5.08e-02,ratio(k)= 0.99102
k=120,shift(k)= 19.82877553955445,m(k)=10,delta(k)=5.03e-02,ratio(k)= 0.99101
k=121,shift(k)= 19.82826242691691,m(k)=10,delta(k)=4.99e-02,ratio(k)= 0.99099
k=122,shift(k)= 19.82763863837793,m(k)=10,delta(k)=4.94e-02,ratio(k)= 0.99097
k=123,shift(k)= 19.82691163170821,m(k)=10,delta(k)=4.90e-02,ratio(k)= 0.99095
k=124,shift(k)= 19.82608850060241,m(k)=10,delta(k)=4.85e-02,ratio(k)= 0.99094
k=125,shift(k)= 19.82517599058911,m(k)=10,delta(k)=4.81e-02,ratio(k)= 0.99092
k=126,shift(k)= 19.82418051427010,m(k)=10,delta(k)=4.76e-02,ratio(k)= 0.99090
k=127,shift(k)= 19.82310816591546,m(k)=10,delta(k)=4.72e-02,ratio(k)= 0.99088
k=128,shift(k)= 19.82196473543703,m(k)=10,delta(k)=4.68e-02,ratio(k)= 0.99087
k=129,shift(k)= 19.82075572177522,m(k)=10,delta(k)=4.63e-02,ratio(k)= 0.99085
k=130,shift(k)= 19.81948634571855,m(k)=10,delta(k)=4.59e-02,ratio(k)= 0.99083
k=131,shift(k)= 19.81816156219010,m(k)=10,delta(k)=4.55e-02,ratio(k)= 0.99082
k=132,shift(k)= 19.81678607201196,m(k)=10,delta(k)=4.51e-02,ratio(k)= 0.99080
k=133,shift(k)= 19.81536433317632,m(k)=10,delta(k)=4.47e-02,ratio(k)= 0.99078
k=134,shift(k)= 19.81390057164771,m(k)=10,delta(k)=4.43e-02,ratio(k)= 0.99077
k=135,shift(k)= 19.81239879170684,m(k)=10,delta(k)=4.38e-02,ratio(k)= 0.99075
k=136,shift(k)= 19.81086278586641,m(k)=10,delta(k)=4.34e-02,ratio(k)= 0.99074
k=137,shift(k)= 19.80929614436614,m(k)=10,delta(k)=4.30e-02,ratio(k)= 0.99072
k=138,shift(k)= 19.80770226427252,m(k)=10,delta(k)=4.26e-02,ratio(k)= 0.99071
k=139,shift(k)= 19.80608435819710,m(k)=10,delta(k)=4.22e-02,ratio(k)= 0.99069
k=140,shift(k)= 19.80444546264771,m(k)=10,delta(k)=4.18e-02,ratio(k)= 0.99068
k=141,shift(k)= 19.80278844603085,m(k)=10,delta(k)=4.15e-02,ratio(k)= 0.99066
k=142,shift(k)= 19.80111601631473,m(k)=10,delta(k)=4.11e-02,ratio(k)= 0.99065
k=143,shift(k)= 19.79943072837583,m(k)=10,delta(k)=4.07e-02,ratio(k)= 0.99063
k=144,shift(k)= 19.79773499102979,m(k)=10,delta(k)=4.03e-02,ratio(k)= 0.99062
k=145,shift(k)= 19.79603107377213,m(k)=10,delta(k)=3.99e-02,ratio(k)= 0.99061
k=146,shift(k)= 19.79432111322842,m(k)=10,delta(k)=3.95e-02,ratio(k)= 0.99059
k=147,shift(k)= 19.79260711933733,m(k)=10,delta(k)=3.92e-02,ratio(k)= 0.99058
k=148,shift(k)= 19.79089098126932,m(k)=10,delta(k)=3.88e-02,ratio(k)= 0.99057
k=149,shift(k)= 19.78917447309597,m(k)=10,delta(k)=3.84e-02,ratio(k)= 0.99055
k=150,shift(k)= 19.78745925921553,m(k)=10,delta(k)=3.81e-02,ratio(k)= 0.99054
k=151,shift(k)= 19.78574689955295,m(k)=10,delta(k)=3.77e-02,ratio(k)= 0.99053
k=152,shift(k)= 19.78403885453433,m(k)=10,delta(k)=3.74e-02,ratio(k)= 0.99052
k=153,shift(k)= 19.78233648984738,m(k)=10,delta(k)=3.70e-02,ratio(k)= 0.99050
k=154,shift(k)= 19.78064108100416,m(k)=10,delta(k)=3.66e-02,ratio(k)= 0.99049
k=155,shift(k)= 19.77895381770281,m(k)=10,delta(k)=3.63e-02,ratio(k)= 0.99048
k=156,shift(k)= 19.77727580800372,m(k)=10,delta(k)=3.60e-02,ratio(k)= 0.99047
k=157,shift(k)= 19.77560808232455,m(k)=10,delta(k)=3.56e-02,ratio(k)= 0.99046
k=158,shift(k)= 19.77395159726604,m(k)=10,delta(k)=3.53e-02,ratio(k)= 0.99044
k=159,shift(k)= 19.77230723926731,m(k)=10,delta(k)=3.49e-02,ratio(k)= 0.99043
k=160,shift(k)= 19.77067582810450,m(k)=10,delta(k)=3.46e-02,ratio(k)= 0.99042
k=161,shift(k)= 19.76905812023760,m(k)=10,delta(k)=3.43e-02,ratio(k)= 0.99041
k=162,shift(k)= 19.76745481201073,m(k)=10,delta(k)=3.39e-02,ratio(k)= 0.99040
k=163,shift(k)= 19.76586654271124,m(k)=10,delta(k)=3.36e-02,ratio(k)= 0.99039
k=164,shift(k)= 19.76429389749443,m(k)=10,delta(k)=3.33e-02,ratio(k)= 0.99038
k=165,shift(k)= 19.76273741018185,m(k)=10,delta(k)=3.30e-02,ratio(k)= 0.99037
k=166,shift(k)= 19.76119756593006,m(k)=10,delta(k)=3.26e-02,ratio(k)= 0.99036
k=167,shift(k)= 19.75967480378589,m(k)=10,delta(k)=3.23e-02,ratio(k)= 0.99035
k=168,shift(k)= 19.75816951912932,m(k)=10,delta(k)=3.20e-02,ratio(k)= 0.99034
k=169,shift(k)= 19.75668206599935,m(k)=10,delta(k)=3.17e-02,ratio(k)= 0.99033
k=170,shift(k)= 19.75521275932359,m(k)=10,delta(k)=3.14e-02,ratio(k)= 0.99032
k=171,shift(k)= 19.75376187704106,m(k)=10,delta(k)=3.11e-02,ratio(k)= 0.99031
k=172,shift(k)= 19.75232966213650,m(k)=10,delta(k)=3.08e-02,ratio(k)= 0.99030
k=173,shift(k)= 19.75091632457466,m(k)=10,delta(k)=3.05e-02,ratio(k)= 0.99029
```

```
k=174,shift(k)= 19.74952204314978,m(k)=10,delta(k)=3.02e-02,ratio(k)= 0.99028
k=175,shift(k)= 19.74814696725082,m(k)=10,delta(k)=2.99e-02,ratio(k)= 0.99027
k=176,shift(k)= 19.74679121854614,m(k)=10,delta(k)=2.96e-02,ratio(k)= 0.99027
k=177,shift(k)= 19.74545489258715,m(k)=10,delta(k)=2.93e-02,ratio(k)= 0.99026
k=178,shift(k)= 19.74413806034203,m(k)=10,delta(k)=2.90e-02,ratio(k)= 0.99025
k=179,shift(k)= 19.74284076965363,m(k)=10,delta(k)=2.88e-02,ratio(k)= 0.99024
k=180,shift(k)= 19.74156304663308,m(k)=10,delta(k)=2.85e-02,ratio(k)= 0.99023
k=181,shift(k)= 19.74030489698395,m(k)=10,delta(k)=2.82e-02,ratio(k)= 0.99022
k=182,shift(k)= 19.73906630726874,m(k)=10,delta(k)=2.79e-02,ratio(k)= 0.99022
k=183,shift(k)= 19.73784724611095,m(k)=10,delta(k)=2.77e-02,ratio(k)= 0.99021
k=184,shift(k)= 19.73664766533979,m(k)=10,delta(k)=2.74e-02,ratio(k)= 0.99020
k=185,shift(k)= 19.73546750108471,m(k)=10,delta(k)=2.71e-02,ratio(k)= 0.99019
k=186,shift(k)= 19.73430667480948,m(k)=10,delta(k)=2.68e-02,ratio(k)= 0.99019
k=187,shift(k)= 19.73316509430570,m(k)=10,delta(k)=2.66e-02,ratio(k)= 0.99018
k=188,shift(k)= 19.73204265462975,m(k)=10,delta(k)=2.63e-02,ratio(k)= 0.99017
k=189,shift(k)= 19.73093923899518,m(k)=10,delta(k)=2.61e-02,ratio(k)= 0.99017
k=190,shift(k)= 19.72985471962499,m(k)=10,delta(k)=2.58e-02,ratio(k)= 0.99016
k=191,shift(k)= 19.72878895855807,m(k)=10,delta(k)=2.56e-02,ratio(k)= 0.99015
k=192,shift(k)= 19.72774180841559,m(k)=10,delta(k)=2.53e-02,ratio(k)= 0.99015
k=193,shift(k)= 19.72671311313087,m(k)=10,delta(k)=2.51e-02,ratio(k)= 0.99014
k=194,shift(k)= 19.72570270863882,m(k)=10,delta(k)=2.48e-02,ratio(k)= 0.99013
k=195,shift(k)= 19.72471042353366,m(k)=10,delta(k)=2.46e-02,ratio(k)= 0.99013
k=196,shift(k)= 19.72373607969137,m(k)=10,delta(k)=2.43e-02,ratio(k)= 0.99012
k=197,shift(k)= 19.72277949285930,m(k)=10,delta(k)=2.41e-02,ratio(k)= 0.99012
k=198,shift(k)= 19.72184047321442,m(k)=10,delta(k)=2.38e-02,ratio(k)= 0.99011
k=199,shift(k)= 19.72091882589495,m(k)=10,delta(k)=2.36e-02,ratio(k)= 0.99010
k=200,shift(k)= 19.72001435150124,m(k)=10,delta(k)=2.34e-02,ratio(k)= 0.99010
k=201,shift(k)= 19.71912684657135,m(k)=10,delta(k)=2.31e-02,ratio(k)= 0.99009
k=202,shift(k)= 19.71825610402945,m(k)=10,delta(k)=2.29e-02,ratio(k)= 0.99009
k=203,shift(k)= 19.71740191361060,m(k)=10,delta(k)=2.27e-02,ratio(k)= 0.99008
k=204,shift(k)= 19.71656406226163,m(k)=10,delta(k)=2.25e-02,ratio(k)= 0.99008
k=205,shift(k)= 19.71574233452179,m(k)=10,delta(k)=2.22e-02,ratio(k)= 0.99007
k=206,shift(k)= 19.71493651287938,m(k)=10,delta(k)=2.20e-02,ratio(k)= 0.99007
k=207,shift(k)= 19.71414637810884,m(k)=10,delta(k)=2.18e-02,ratio(k)= 0.99006
k=208,shift(k)= 19.71337170958867,m(k)=10,delta(k)=2.16e-02,ratio(k)= 0.99006
k=209,shift(k)= 19.71261228560134,m(k)=10,delta(k)=2.14e-02,ratio(k)= 0.99005
k=210,shift(k)= 19.71186788361675,m(k)=10,delta(k)=2.11e-02,ratio(k)= 0.99005
k=211,shift(k)= 19.71113828055394,m(k)=10,delta(k)=2.09e-02,ratio(k)= 0.99004
k=212,shift(k)= 19.71042325303298,m(k)=10,delta(k)=2.07e-02,ratio(k)= 0.99004
k=213,shift(k)= 19.70972257760770,m(k)=10,delta(k)=2.05e-02,ratio(k)= 0.99003
k=214,shift(k)= 19.70903603098498,m(k)=10,delta(k)=2.03e-02,ratio(k)= 0.99003
k=215,shift(k)= 19.70836339023096,m(k)=10,delta(k)=2.01e-02,ratio(k)= 0.99003
k=216,shift(k)= 19.70770443296238,m(k)=10,delta(k)=1.99e-02,ratio(k)= 0.99002
k=217,shift(k)= 19.70705893752749,m(k)=10,delta(k)=1.97e-02,ratio(k)= 0.99002
k=218,shift(k)= 19.70642668317192,m(k)=10,delta(k)=1.95e-02,ratio(k)= 0.99001
k=219,shift(k)= 19.70580745019758,m(k)=10,delta(k)=1.93e-02,ratio(k)= 0.99001
k=220,shift(k)= 19.70520102010672,m(k)=10,delta(k)=1.91e-02,ratio(k)= 0.99001
k=221,shift(k)= 19.70460717573868,m(k)=10,delta(k)=1.89e-02,ratio(k)= 0.99000
k=222,shift(k)= 19.70402570139401,m(k)=10,delta(k)=1.88e-02,ratio(k)= 0.99000
k=223,shift(k)= 19.70345638295274,m(k)=10,delta(k)=1.86e-02,ratio(k)= 0.98999
k=224,shift(k)= 19.70289900797978,m(k)=10,delta(k)=1.84e-02,ratio(k)= 0.98999
k=225,shift(k)= 19.70235336582734,m(k)=10,delta(k)=1.82e-02,ratio(k)= 0.98999
k=226,shift(k)= 19.70181924772264,m(k)=10,delta(k)=1.80e-02,ratio(k)= 0.98998
k=227,shift(k)= 19.70129644685418,m(k)=10,delta(k)=1.78e-02,ratio(k)= 0.98998
k=228,shift(k)= 19.70078475844854,m(k)=10,delta(k)=1.77e-02,ratio(k)= 0.98998
k=229,shift(k)= 19.70028397983852,m(k)=10,delta(k)=1.75e-02,ratio(k)= 0.98997
k=230,shift(k)= 19.69979391052946,m(k)=10,delta(k)=1.73e-02,ratio(k)= 0.98997
k=231,shift(k)= 19.69931435225265,m(k)=10,delta(k)=1.71e-02,ratio(k)= 0.98997
```

```
k=232,shift(k)= 19.69884510902138,m(k)=10,delta(k)=1.70e-02,ratio(k)= 0.98996
k=233,shift(k)= 19.69838598717514,m(k)=10,delta(k)=1.68e-02,ratio(k)= 0.98996
k=234,shift(k)= 19.69793679542017,m(k)=10,delta(k)=1.66e-02,ratio(k)= 0.98996
k=235,shift(k)= 19.69749734486755,m(k)=10,delta(k)=1.64e-02,ratio(k)= 0.98996
k=236,shift(k)= 19.69706744906321,m(k)=10,delta(k)=1.63e-02,ratio(k)= 0.98995
k=237,shift(k)= 19.69664692401641,m(k)=10,delta(k)=1.61e-02,ratio(k)= 0.98995
k=238,shift(k)= 19.69623558822247,m(k)=10,delta(k)=1.60e-02,ratio(k)= 0.98995
k=239,shift(k)= 19.69583326268223,m(k)=10,delta(k)=1.58e-02,ratio(k)= 0.98994
k=240,shift(k)= 19.69543977091873,m(k)=10,delta(k)=1.56e-02,ratio(k)= 0.98994
k=241,shift(k)= 19.69505493898788,m(k)=10,delta(k)=1.55e-02,ratio(k)= 0.98994
k=242,shift(k)= 19.69467859548935,m(k)=10,delta(k)=1.53e-02,ratio(k)= 0.98994
k=243,shift(k)= 19.69431057157161,m(k)=10,delta(k)=1.52e-02,ratio(k)= 0.98993
k=244,shift(k)= 19.69395070093466,m(k)=10,delta(k)=1.50e-02,ratio(k)= 0.98993
k=245,shift(k)= 19.69359881983284,m(k)=10,delta(k)=1.49e-02,ratio(k)= 0.98993
k=246,shift(k)= 19.69325476707109,m(k)=10,delta(k)=1.47e-02,ratio(k)= 0.98993
k=247,shift(k)= 19.69291838400094,m(k)=10,delta(k)=1.46e-02,ratio(k)= 0.98992
k=248,shift(k)= 19.69258951451490,m(k)=10,delta(k)=1.44e-02,ratio(k)= 0.98992
k=249,shift(k)= 19.69226800503707,m(k)=10,delta(k)=1.43e-02,ratio(k)= 0.98992
k=250,shift(k)= 19.69195370451318,m(k)=10,delta(k)=1.41e-02,ratio(k)= 0.98992
k=251,shift(k)= 19.69164646439788,m(k)=10,delta(k)=1.40e-02,ratio(k)= 0.98992
k=252,shift(k)= 19.69134613864176,m(k)=10,delta(k)=1.38e-02,ratio(k)= 0.98991
k=253,shift(k)= 19.69105258367607,m(k)=10,delta(k)=1.37e-02,ratio(k)= 0.98991
k=254,shift(k)= 19.69076565839496,m(k)=10,delta(k)=1.36e-02,ratio(k)= 0.98991
k=255,shift(k)= 19.69048522413675,m(k)=10,delta(k)=1.34e-02,ratio(k)= 0.98991
k=256,shift(k)= 19.69021114466722,m(k)=10,delta(k)=1.33e-02,ratio(k)= 0.98991
k=257,shift(k)= 19.68994328615620,m(k)=10,delta(k)=1.32e-02,ratio(k)= 0.98990
k=258,shift(k)= 19.68968151715854,m(k)=10,delta(k)=1.30e-02,ratio(k)= 0.98990
k=259,shift(k)= 19.68942570858935,m(k)=10,delta(k)=1.29e-02,ratio(k)= 0.98990
k=260,shift(k)= 19.68917573370131,m(k)=10,delta(k)=1.28e-02,ratio(k)= 0.98990
k=261,shift(k)= 19.68893146806281,m(k)=10,delta(k)=1.26e-02,ratio(k)= 0.98990
k=262,shift(k)= 19.68869278952922,m(k)=10,delta(k)=1.25e-02,ratio(k)= 0.98990
k=263,shift(k)= 19.68845957822025,m(k)=10,delta(k)=1.24e-02,ratio(k)= 0.98989
k=264,shift(k)= 19.68823171649245,m(k)=10,delta(k)=1.23e-02,ratio(k)= 0.98989
k=265,shift(k)= 19.68800908891352,m(k)=10,delta(k)=1.21e-02,ratio(k)= 0.98989
k=266,shift(k)= 19.68779158223408,m(k)=10,delta(k)=1.20e-02,ratio(k)= 0.98989
k=267,shift(k)= 19.68757908536062,m(k)=10,delta(k)=1.19e-02,ratio(k)= 0.98989
k=268,shift(k)= 19.68737148932856,m(k)=10,delta(k)=1.18e-02,ratio(k)= 0.98989
k=269,shift(k)= 19.68716868727248,m(k)=10,delta(k)=1.17e-02,ratio(k)= 0.98988
k=270,shift(k)= 19.68697057439884,m(k)=10,delta(k)=1.15e-02,ratio(k)= 0.98988
k=271,shift(k)= 19.68677704795680,m(k)=10,delta(k)=1.14e-02,ratio(k)= 0.98988
k=272,shift(k)= 19.68658800720939,m(k)=10,delta(k)=1.13e-02,ratio(k)= 0.98988
k=273,shift(k)= 19.68640335340484,m(k)=10,delta(k)=1.12e-02,ratio(k)= 0.98988
k=274,shift(k)= 19.68622298974772,m(k)=10,delta(k)=1.11e-02,ratio(k)= 0.98988
k=275,shift(k)= 19.68604682136867,m(k)=10,delta(k)=1.10e-02,ratio(k)= 0.98988
k=276,shift(k)= 19.68587475529575,m(k)=10,delta(k)=1.09e-02,ratio(k)= 0.98987
k=277,shift(k)= 19.68570670042620,m(k)=10,delta(k)=1.07e-02,ratio(k)= 0.98987
k=278,shift(k)= 19.68554256749604,m(k)=10,delta(k)=1.06e-02,ratio(k)= 0.98987
k=279,shift(k)= 19.68538226905042,m(k)=10,delta(k)=1.05e-02,ratio(k)= 0.98987
k=280,shift(k)= 19.68522571941842,m(k)=10,delta(k)=1.04e-02,ratio(k)= 0.98987
k=281,shift(k)= 19.68507283467843,m(k)=10,delta(k)=1.03e-02,ratio(k)= 0.98987
k=282,shift(k)= 19.68492353263349,m(k)=10,delta(k)=1.02e-02,ratio(k)= 0.98987
k=283,shift(k)= 19.68477773278088,m(k)=10,delta(k)=1.01e-02,ratio(k)= 0.98987
k=284,shift(k)= 19.68463535628463,m(k)=10,delta(k)=1.00e-02,ratio(k)= 0.98986
k=285,shift(k)= 19.68449632594674,m(k)=10,delta(k)=9.90e-03,ratio(k)= 0.98986
k=286,shift(k)= 19.68436056617759,m(k)=10,delta(k)=9.80e-03,ratio(k)= 0.98986
k=287,shift(k)= 19.68422800297015,m(k)=10,delta(k)=9.70e-03,ratio(k)= 0.98986
k=288,shift(k)= 19.68409856387197,m(k)=10,delta(k)=9.60e-03,ratio(k)= 0.98986
k=289,shift(k)= 19.68397217795615,m(k)=10,delta(k)=9.51e-03,ratio(k)= 0.98986
```

```
k=290,shift(k)= 19.68384877579576,m(k)=10,delta(k)=9.41e-03,ratio(k)= 0.98986
k=291,shift(k)= 19.68372828943625,m(k)=10,delta(k)=9.31e-03,ratio(k)= 0.98986
k=292,shift(k)= 19.68361065236811,m(k)=10,delta(k)=9.22e-03,ratio(k)= 0.98986
k=293,shift(k)= 19.68349579950207,m(k)=10,delta(k)=9.13e-03,ratio(k)= 0.98986
k=294,shift(k)= 19.68338366714163,m(k)=10,delta(k)=9.03e-03,ratio(k)= 0.98986
k=295,shift(k)= 19.68327419295710,m(k)=10,delta(k)=8.94e-03,ratio(k)= 0.98985
k=296,shift(k)= 19.68316731596159,m(k)=10,delta(k)=8.85e-03,ratio(k)= 0.98985
k=297,shift(k)= 19.68306297648377,m(k)=10,delta(k)=8.76e-03,ratio(k)= 0.98985
k=298,shift(k)= 19.68296111614408,m(k)=10,delta(k)=8.67e-03,ratio(k)= 0.98985
k=299,shift(k)= 19.68286167783046,m(k)=10,delta(k)=8.58e-03,ratio(k)= 0.98985
k=300,shift(k)= 19.68276460567270,m(k)=10,delta(k)=8.50e-03,ratio(k)= 0.98985
k=301,shift(k)= 19.68266984502007,m(k)=10,delta(k)=8.41e-03,ratio(k)= 0.98985
k=302,shift(k)= 19.68257734241663,m(k)=10,delta(k)=8.33e-03,ratio(k)= 0.98985
k=303,shift(k)= 19.68248704557792,m(k)=10,delta(k)=8.24e-03,ratio(k)= 0.98985
k=304,shift(k)= 19.68239890336876,m(k)=10,delta(k)=8.16e-03,ratio(k)= 0.98985
k=305,shift(k)= 19.68231286577995,m(k)=10,delta(k)=8.08e-03,ratio(k)= 0.98985
k=306,shift(k)= 19.68222888390494,m(k)=10,delta(k)=7.99e-03,ratio(k)= 0.98985
k=307,shift(k)= 19.68214690992081,m(k)=10,delta(k)=7.91e-03,ratio(k)= 0.98984
k=308,shift(k)= 19.68206689706400,m(k)=10,delta(k)=7.83e-03,ratio(k)= 0.98984
k=309,shift(k)= 19.68198879960951,m(k)=10,delta(k)=7.75e-03,ratio(k)= 0.98984
k=310,shift(k)= 19.68191257285075,m(k)=10,delta(k)=7.67e-03,ratio(k)= 0.98984
k=311,shift(k)= 19.68183817307759,m(k)=10,delta(k)=7.60e-03,ratio(k)= 0.98984
k=312,shift(k)= 19.68176555755737,m(k)=10,delta(k)=7.52e-03,ratio(k)= 0.98984
k=313,shift(k)= 19.68169468451441,m(k)=10,delta(k)=7.44e-03,ratio(k)= 0.98984
k=314,shift(k)= 19.68162551311029,m(k)=10,delta(k)=7.37e-03,ratio(k)= 0.98984
k=315,shift(k)= 19.68155800342311,m(k)=10,delta(k)=7.29e-03,ratio(k)= 0.98984
k=316,shift(k)= 19.68149211643202,m(k)=10,delta(k)=7.22e-03,ratio(k)= 0.98984
k=317,shift(k)= 19.68142781399408,m(k)=10,delta(k)=7.14e-03,ratio(k)= 0.98984
k=318,shift(k)= 19.68136505883055,m(k)=10,delta(k)=7.07e-03,ratio(k)= 0.98984
k=319,shift(k)= 19.68130381450435,m(k)=10,delta(k)=7.00e-03,ratio(k)= 0.98984
k=320,shift(k)= 19.68124404540610,m(k)=10,delta(k)=6.93e-03,ratio(k)= 0.98984
k=321,shift(k)= 19.68118571673346,m(k)=10,delta(k)=6.86e-03,ratio(k)= 0.98984
k=322,shift(k)= 19.68112879447719,m(k)=10,delta(k)=6.79e-03,ratio(k)= 0.98984
k=323,shift(k)= 19.68107324540222,m(k)=10,delta(k)=6.72e-03,ratio(k)= 0.98984
k=324,shift(k)= 19.68101903703123,m(k)=10,delta(k)=6.65e-03,ratio(k)= 0.98984
k=325,shift(k)= 19.68096613762966,m(k)=10,delta(k)=6.58e-03,ratio(k)= 0.98983
k=326,shift(k)= 19.68091451618813,m(k)=10,delta(k)=6.52e-03,ratio(k)= 0.98983
k=327,shift(k)= 19.68086414240921,m(k)=10,delta(k)=6.45e-03,ratio(k)= 0.98983
k=328,shift(k)= 19.68081498668989,m(k)=10,delta(k)=6.38e-03,ratio(k)= 0.98983
k=329,shift(k)= 19.68076702010752,m(k)=10,delta(k)=6.32e-03,ratio(k)= 0.98983
k=330,shift(k)= 19.68072021440513,m(k)=10,delta(k)=6.26e-03,ratio(k)= 0.98983
k=331,shift(k)= 19.68067454197644,m(k)=10,delta(k)=6.19e-03,ratio(k)= 0.98983
k=332,shift(k)= 19.68062997585302,m(k)=10,delta(k)=6.13e-03,ratio(k)= 0.98983
k=333,shift(k)= 19.68058648968865,m(k)=10,delta(k)=6.07e-03,ratio(k)= 0.98983
k=334,shift(k)= 19.68054405774646,m(k)=10,delta(k)=6.00e-03,ratio(k)= 0.98983
k=335,shift(k)= 19.68050265488609,m(k)=10,delta(k)=5.94e-03,ratio(k)= 0.98983
k=336,shift(k)= 19.68046225655009,m(k)=10,delta(k)=5.88e-03,ratio(k)= 0.98983
k=337,shift(k)= 19.68042283875072,m(k)=10,delta(k)=5.82e-03,ratio(k)= 0.98983
k=338,shift(k)= 19.68038437805772,m(k)=10,delta(k)=5.76e-03,ratio(k)= 0.98983
k=339,shift(k)= 19.68034685158603,m(k)=10,delta(k)=5.71e-03,ratio(k)= 0.98983
k=340,shift(k)= 19.68031023698375,m(k)=10,delta(k)=5.65e-03,ratio(k)= 0.98983
k=341,shift(k)= 19.68027451242060,m(k)=10,delta(k)=5.59e-03,ratio(k)= 0.98983
k=342,shift(k)= 19.68023965657545,m(k)=10,delta(k)=5.53e-03,ratio(k)= 0.98983
k=343,shift(k)= 19.68020564862508,m(k)=10,delta(k)=5.48e-03,ratio(k)= 0.98983
k=344,shift(k)= 19.68017246823425,m(k)=10,delta(k)=5.42e-03,ratio(k)= 0.98983
k=345,shift(k)= 19.68014009554350,m(k)=10,delta(k)=5.37e-03,ratio(k)= 0.98983
k=346,shift(k)= 19.68010851115816,m(k)=10,delta(k)=5.31e-03,ratio(k)= 0.98983
k=347,shift(k)= 19.68007769614018,m(k)=10,delta(k)=5.26e-03,ratio(k)= 0.98983
```

```
k=348,shift(k)= 19.68004763199522,m(k)=10,delta(k)=5.20e-03,ratio(k)= 0.98983
k=349,shift(k)= 19.68001830066382,m(k)=10,delta(k)=5.15e-03,ratio(k)= 0.98983
k=350,shift(k)= 19.67998968451159,m(k)=10,delta(k)=5.10e-03,ratio(k)= 0.98983
k=351,shift(k)= 19.67996176631967,m(k)=10,delta(k)=5.05e-03,ratio(k)= 0.98983
k=352,shift(k)= 19.67993452927399,m(k)=10,delta(k)=5.00e-03,ratio(k)= 0.98982
k=353,shift(k)= 19.67990795695885,m(k)=10,delta(k)=4.94e-03,ratio(k)= 0.98982
k=354,shift(k)= 19.67988203334488,m(k)=10,delta(k)=4.89e-03,ratio(k)= 0.98982
k=355,shift(k)= 19.67985674278217,m(k)=10,delta(k)=4.84e-03,ratio(k)= 0.98982
k=356,shift(k)= 19.67983206999113,m(k)=10,delta(k)=4.80e-03,ratio(k)= 0.98982
k=357,shift(k)= 19.67980800005351,m(k)=10,delta(k)=4.75e-03,ratio(k)= 0.98982
k=358,shift(k)= 19.67978451840466,m(k)=10,delta(k)=4.70e-03,ratio(k)= 0.98982
k=359,shift(k)= 19.67976161082464,m(k)=10,delta(k)=4.65e-03,ratio(k)= 0.98982
k=360,shift(k)= 19.67973926343180,m(k)=10,delta(k)=4.60e-03,ratio(k)= 0.98982
k=361,shift(k)= 19.67971746267407,m(k)=10,delta(k)=4.56e-03,ratio(k)= 0.98982
k=362,shift(k)= 19.67969619532082,m(k)=10,delta(k)=4.51e-03,ratio(k)= 0.98982
k=363,shift(k)= 19.67967544845673,m(k)=10,delta(k)=4.46e-03,ratio(k)= 0.98982
k=364,shift(k)= 19.67965520947375,m(k)=10,delta(k)=4.42e-03,ratio(k)= 0.98982
k=365,shift(k)= 19.67963546606306,m(k)=10,delta(k)=4.37e-03,ratio(k)= 0.98982
k=366,shift(k)= 19.67961620621075,m(k)=10,delta(k)=4.33e-03,ratio(k)= 0.98982
k=367,shift(k)= 19.67959741818882,m(k)=10,delta(k)=4.28e-03,ratio(k)= 0.98982
k=368,shift(k)= 19.67957909054935,m(k)=10,delta(k)=4.24e-03,ratio(k)= 0.98982
k=369,shift(k)= 19.67956121211701,m(k)=10,delta(k)=4.20e-03,ratio(k)= 0.98982
k=370,shift(k)= 19.67954377198436,m(k)=10,delta(k)=4.16e-03,ratio(k)= 0.98982
k=371,shift(k)= 19.67952675950428,m(k)=10,delta(k)=4.11e-03,ratio(k)= 0.98982
k=372,shift(k)= 19.67951016428539,m(k)=10,delta(k)=4.07e-03,ratio(k)= 0.98982
k=373,shift(k)= 19.67949397618399,m(k)=10,delta(k)=4.03e-03,ratio(k)= 0.98982
k=374,shift(k)= 19.67947818529921,m(k)=10,delta(k)=3.99e-03,ratio(k)= 0.98982
k=375,shift(k)= 19.67946278196855,m(k)=10,delta(k)=3.95e-03,ratio(k)= 0.98982
k=376,shift(k)= 19.67944775676048,m(k)=10,delta(k)=3.91e-03,ratio(k)= 0.98982
k=377,shift(k)= 19.67943310047064,m(k)=10,delta(k)=3.87e-03,ratio(k)= 0.98982
k=378,shift(k)= 19.67941880411511,m(k)=10,delta(k)=3.83e-03,ratio(k)= 0.98982
k=379,shift(k)= 19.67940485892493,m(k)=10,delta(k)=3.79e-03,ratio(k)= 0.98982
k=380,shift(k)= 19.67939125634426,m(k)=10,delta(k)=3.75e-03,ratio(k)= 0.98982
k=381,shift(k)= 19.67937798802091,m(k)=10,delta(k)=3.71e-03,ratio(k)= 0.98982
k=382,shift(k)= 19.67936504580466,m(k)=10,delta(k)=3.68e-03,ratio(k)= 0.98982
k=383,shift(k)= 19.67935242174158,m(k)=10,delta(k)=3.64e-03,ratio(k)= 0.98982
k=384,shift(k)= 19.67934010806924,m(k)=10,delta(k)=3.60e-03,ratio(k)= 0.98982
k=385,shift(k)= 19.67932809721139,m(k)=10,delta(k)=3.56e-03,ratio(k)= 0.98982
k=386,shift(k)= 19.67931638177609,m(k)=10,delta(k)=3.53e-03,ratio(k)= 0.98982
k=387,shift(k)= 19.67930495454885,m(k)=10,delta(k)=3.49e-03,ratio(k)= 0.98982
k=388,shift(k)= 19.67929380848913,m(k)=10,delta(k)=3.46e-03,ratio(k)= 0.98982
k=389,shift(k)= 19.67928293672647,m(k)=10,delta(k)=3.42e-03,ratio(k)= 0.98982
k=390,shift(k)= 19.67927233255663,m(k)=10,delta(k)=3.39e-03,ratio(k)= 0.98982
k=391,shift(k)= 19.67926198943817,m(k)=10,delta(k)=3.35e-03,ratio(k)= 0.98982
k=392,shift(k)= 19.67925190098654,m(k)=10,delta(k)=3.32e-03,ratio(k)= 0.98982
k=393,shift(k)= 19.67924206097238,m(k)=10,delta(k)=3.28e-03,ratio(k)= 0.98982
k=394,shift(k)= 19.67923246331744,m(k)=10,delta(k)=3.25e-03,ratio(k)= 0.98982
k=395,shift(k)= 19.67922310208922,m(k)=10,delta(k)=3.22e-03,ratio(k)= 0.98982
k=396,shift(k)= 19.67921397150051,m(k)=10,delta(k)=3.18e-03,ratio(k)= 0.98982
k=397,shift(k)= 19.67920506590356,m(k)=10,delta(k)=3.15e-03,ratio(k)= 0.98982
k=398,shift(k)= 19.67919637978704,m(k)=10,delta(k)=3.12e-03,ratio(k)= 0.98982
k=399,shift(k)= 19.67918790777472,m(k)=10,delta(k)=3.09e-03,ratio(k)= 0.98982
k=400,shift(k)= 19.67917964461972,m(k)=10,delta(k)=3.06e-03,ratio(k)= 0.98982
k=401,shift(k)= 19.67917158520339,m(k)=10,delta(k)=3.03e-03,ratio(k)= 0.98982
k=402,shift(k)= 19.67916372453047,m(k)=10,delta(k)=2.99e-03,ratio(k)= 0.98982
k=403,shift(k)= 19.67915605772737,m(k)=10,delta(k)=2.96e-03,ratio(k)= 0.98982
k=404,shift(k)= 19.67914858003885,m(k)=10,delta(k)=2.93e-03,ratio(k)= 0.98982
k=405,shift(k)= 19.67914128682589,m(k)=10,delta(k)=2.90e-03,ratio(k)= 0.98982
```

```
k=406,shift(k)= 19.67913417356142,m(k)=10,delta(k)=2.87e-03,ratio(k)= 0.98982
k=407,shift(k)= 19.67912723582877,m(k)=10,delta(k)=2.85e-03,ratio(k)= 0.98982
k=408,shift(k)= 19.67912046931930,m(k)=10,delta(k)=2.82e-03,ratio(k)= 0.98982
k=409,shift(k)= 19.67911386982859,m(k)=10,delta(k)=2.79e-03,ratio(k)= 0.98982
k=410,shift(k)= 19.67910743325448,m(k)=10,delta(k)=2.76e-03,ratio(k)= 0.98982
k=411,shift(k)= 19.67910115559599,m(k)=10,delta(k)=2.73e-03,ratio(k)= 0.98982
k=412,shift(k)= 19.67909503294766,m(k)=10,delta(k)=2.70e-03,ratio(k)= 0.98982
k=413,shift(k)= 19.67908906150161,m(k)=10,delta(k)=2.68e-03,ratio(k)= 0.98982
k=414,shift(k)= 19.67908323754043,m(k)=10,delta(k)=2.65e-03,ratio(k)= 0.98982
k=415,shift(k)= 19.67907755743887,m(k)=10,delta(k)=2.62e-03,ratio(k)= 0.98982
k=416,shift(k)= 19.67907201766020,m(k)=10,delta(k)=2.60e-03,ratio(k)= 0.98982
k=417,shift(k)= 19.67906661475358,m(k)=10,delta(k)=2.57e-03,ratio(k)= 0.98982
k=418,shift(k)= 19.67906134535175,m(k)=10,delta(k)=2.54e-03,ratio(k)= 0.98982
k=419,shift(k)= 19.67905620617064,m(k)=10,delta(k)=2.52e-03,ratio(k)= 0.98981
k=420,shift(k)= 19.67905119400643,m(k)=10,delta(k)=2.49e-03,ratio(k)= 0.98981
k=421,shift(k)= 19.67904630573266,m(k)=10,delta(k)=2.47e-03,ratio(k)= 0.98981
k=422,shift(k)= 19.67904153830045,m(k)=10,delta(k)=2.44e-03,ratio(k)= 0.98981
k=423,shift(k)= 19.67903688873461,m(k)=10,delta(k)=2.42e-03,ratio(k)= 0.98981
k=424,shift(k)= 19.67903235413308,m(k)=10,delta(k)=2.39e-03,ratio(k)= 0.98981
k=425,shift(k)= 19.67902793166416,m(k)=10,delta(k)=2.37e-03,ratio(k)= 0.98981
k=426,shift(k)= 19.67902361856683,m(k)=10,delta(k)=2.34e-03,ratio(k)= 0.98981
k=427,shift(k)= 19.67901941214639,m(k)=10,delta(k)=2.32e-03,ratio(k)= 0.98981
k=428,shift(k)= 19.67901530977484,m(k)=10,delta(k)=2.30e-03,ratio(k)= 0.98981
k=429,shift(k)= 19.67901130888797,m(k)=10,delta(k)=2.27e-03,ratio(k)= 0.98981
k=430,shift(k)= 19.67900740698477,m(k)=10,delta(k)=2.25e-03,ratio(k)= 0.98981
k=431,shift(k)= 19.67900360162530,m(k)=10,delta(k)=2.23e-03,ratio(k)= 0.98981
k=432,shift(k)= 19.67899989042921,m(k)=10,delta(k)=2.20e-03,ratio(k)= 0.98981
k=433,shift(k)= 19.67899627107515,m(k)=10,delta(k)=2.18e-03,ratio(k)= 0.98981
k=434,shift(k)= 19.67899274129806,m(k)=10,delta(k)=2.16e-03,ratio(k)= 0.98981
k=435,shift(k)= 19.67898929888869,m(k)=10,delta(k)=2.14e-03,ratio(k)= 0.98981
k=436,shift(k)= 19.67898594169197,m(k)=10,delta(k)=2.11e-03,ratio(k)= 0.98981
k=437,shift(k)= 19.67898266760611,m(k)=10,delta(k)=2.09e-03,ratio(k)= 0.98981
k=438,shift(k)= 19.67897947457954,m(k)=10,delta(k)=2.07e-03,ratio(k)= 0.98981
k=439,shift(k)= 19.67897636061253,m(k)=10,delta(k)=2.05e-03,ratio(k)= 0.98981
k=440,shift(k)= 19.67897332375374,m(k)=10,delta(k)=2.03e-03,ratio(k)= 0.98981
k=441,shift(k)= 19.67897036209977,m(k)=10,delta(k)=2.01e-03,ratio(k)= 0.98981
k=442,shift(k)= 19.67896747379464,m(k)=10,delta(k)=1.99e-03,ratio(k)= 0.98981
k=443,shift(k)= 19.67896465702657,m(k)=10,delta(k)=1.97e-03,ratio(k)= 0.98981
k=444,shift(k)= 19.67896191002990,m(k)=10,delta(k)=1.95e-03,ratio(k)= 0.98981
k=445,shift(k)= 19.67895923108112,m(k)=10,delta(k)=1.93e-03,ratio(k)= 0.98981
k=446,shift(k)= 19.67895661849904,m(k)=10,delta(k)=1.91e-03,ratio(k)= 0.98981
k=447,shift(k)= 19.67895407064525,m(k)=10,delta(k)=1.89e-03,ratio(k)= 0.98981
k=448,shift(k)= 19.67895158592006,m(k)=10,delta(k)=1.87e-03,ratio(k)= 0.98981
k=449,shift(k)= 19.67894916276396,m(k)=10,delta(k)=1.85e-03,ratio(k)= 0.98981
k=450,shift(k)= 19.67894679965539,m(k)=10,delta(k)=1.83e-03,ratio(k)= 0.98981
k=451,shift(k)= 19.67894449511078,m(k)=10,delta(k)=1.81e-03,ratio(k)= 0.98981
k=452,shift(k)= 19.67894224768258,m(k)=10,delta(k)=1.80e-03,ratio(k)= 0.98981
k=453,shift(k)= 19.67894005595827,m(k)=10,delta(k)=1.78e-03,ratio(k)= 0.98981
k=454,shift(k)= 19.67893791856141,m(k)=10,delta(k)=1.76e-03,ratio(k)= 0.98981
k=455,shift(k)= 19.67893583414882,m(k)=10,delta(k)=1.74e-03,ratio(k)= 0.98981
k=456,shift(k)= 19.67893380141050,m(k)=10,delta(k)=1.72e-03,ratio(k)= 0.98981
k=457,shift(k)= 19.67893181906842,m(k)=10,delta(k)=1.71e-03,ratio(k)= 0.98981
k=458,shift(k)= 19.67892988587651,m(k)=10,delta(k)=1.69e-03,ratio(k)= 0.98981
k=459,shift(k)= 19.67892800061883,m(k)=10,delta(k)=1.67e-03,ratio(k)= 0.98981
k=460,shift(k)= 19.67892616210980,m(k)=10,delta(k)=1.65e-03,ratio(k)= 0.98981
k=461,shift(k)= 19.67892436919335,m(k)=10,delta(k)=1.64e-03,ratio(k)= 0.98981
k=462,shift(k)= 19.67892262074074,m(k)=10,delta(k)=1.62e-03,ratio(k)= 0.98981
k=463,shift(k)= 19.67892091565204,m(k)=10,delta(k)=1.60e-03,ratio(k)= 0.98981
```

```
k=464,shift(k)= 19.67891925285461,m(k)=10,delta(k)=1.59e-03,ratio(k)= 0.98981
k=465,shift(k)= 19.67891763130144,m(k)=10,delta(k)=1.57e-03,ratio(k)= 0.98981
k=466,shift(k)= 19.67891604997225,m(k)=10,delta(k)=1.56e-03,ratio(k)= 0.98981
k=467,shift(k)= 19.67891450787067,m(k)=10,delta(k)=1.54e-03,ratio(k)= 0.98981
k=468,shift(k)= 19.67891300402598,m(k)=10,delta(k)=1.52e-03,ratio(k)= 0.98981
k=469,shift(k)= 19.67891153749117,m(k)=10,delta(k)=1.51e-03,ratio(k)= 0.98981
k=470,shift(k)= 19.67891010734228,m(k)=10,delta(k)=1.49e-03,ratio(k)= 0.98981
k=471,shift(k)= 19.67890871267872,m(k)=10,delta(k)=1.48e-03,ratio(k)= 0.98981
k=472,shift(k)= 19.67890735262164,m(k)=10,delta(k)=1.46e-03,ratio(k)= 0.98981
k=473,shift(k)= 19.67890602631384,m(k)=10,delta(k)=1.45e-03,ratio(k)= 0.98981
k=474,shift(k)= 19.67890473291980,m(k)=10,delta(k)=1.43e-03,ratio(k)= 0.98981
k=475,shift(k)= 19.67890347162428,m(k)=10,delta(k)=1.42e-03,ratio(k)= 0.98981
k=476,shift(k)= 19.67890224163203,m(k)=10,delta(k)=1.40e-03,ratio(k)= 0.98981
k=477,shift(k)= 19.67890104216731,m(k)=10,delta(k)=1.39e-03,ratio(k)= 0.98981
k=478,shift(k)= 19.67889987247492,m(k)=10,delta(k)=1.38e-03,ratio(k)= 0.98981
k=479,shift(k)= 19.67889873181640,m(k)=10,delta(k)=1.36e-03,ratio(k)= 0.98981
k=480,shift(k)= 19.67889761947226,m(k)=10,delta(k)=1.35e-03,ratio(k)= 0.98981
k=481,shift(k)= 19.67889653474127,m(k)=10,delta(k)=1.33e-03,ratio(k)= 0.98981
k=482,shift(k)= 19.67889547693888,m(k)=10,delta(k)=1.32e-03,ratio(k)= 0.98981
k=483,shift(k)= 19.67889444539817,m(k)=10,delta(k)=1.31e-03,ratio(k)= 0.98981
k=484,shift(k)= 19.67889343946774,m(k)=10,delta(k)=1.29e-03,ratio(k)= 0.98981
k=485,shift(k)= 19.67889245851299,m(k)=10,delta(k)=1.28e-03,ratio(k)= 0.98981
k=486,shift(k)= 19.67889150191488,m(k)=10,delta(k)=1.27e-03,ratio(k)= 0.98981
k=487,shift(k)= 19.67889056906941,m(k)=10,delta(k)=1.25e-03,ratio(k)= 0.98981
k=488,shift(k)= 19.67888965938848,m(k)=10,delta(k)=1.24e-03,ratio(k)= 0.98981
k=489,shift(k)= 19.67888877229689,m(k)=10,delta(k)=1.23e-03,ratio(k)= 0.98981
k=490,shift(k)= 19.67888790723508,m(k)=10,delta(k)=1.22e-03,ratio(k)= 0.98981
k=491,shift(k)= 19.67888706365650,m(k)=10,delta(k)=1.20e-03,ratio(k)= 0.98981
k=492,shift(k)= 19.67888624102855,m(k)=10,delta(k)=1.19e-03,ratio(k)= 0.98981
k=493,shift(k)= 19.67888543883207,m(k)=10,delta(k)=1.18e-03,ratio(k)= 0.98981
k=494,shift(k)= 19.67888465655940,m(k)=10,delta(k)=1.17e-03,ratio(k)= 0.98981
k=495,shift(k)= 19.67888389371776,m(k)=10,delta(k)=1.16e-03,ratio(k)= 0.98981
k=496,shift(k)= 19.67888314982377,m(k)=10,delta(k)=1.14e-03,ratio(k)= 0.98981
k=497,shift(k)= 19.67888242440890,m(k)=10,delta(k)=1.13e-03,ratio(k)= 0.98981
k=498,shift(k)= 19.67888171701329,m(k)=10,delta(k)=1.12e-03,ratio(k)= 0.98981
k=499,shift(k)= 19.67888102719061,m(k)=10,delta(k)=1.11e-03,ratio(k)= 0.98981
k=500,shift(k)= 19.67888035450530,m(k)=10,delta(k)=1.10e-03,ratio(k)= 0.98981
k=501,shift(k)= 19.67887969853141,m(k)=10,delta(k)=1.09e-03,ratio(k)= 0.98981
k=502,shift(k)= 19.67887905885495,m(k)=10,delta(k)=1.08e-03,ratio(k)= 0.98981
k=503,shift(k)= 19.67887843507116,m(k)=10,delta(k)=1.06e-03,ratio(k)= 0.98981
k=504,shift(k)= 19.67887782678590,m(k)=10,delta(k)=1.05e-03,ratio(k)= 0.98981
k=505,shift(k)= 19.67887723361423,m(k)=10,delta(k)=1.04e-03,ratio(k)= 0.98981
k=506,shift(k)= 19.67887665518153,m(k)=10,delta(k)=1.03e-03,ratio(k)= 0.98981
k=507,shift(k)= 19.67887609112186,m(k)=10,delta(k)=1.02e-03,ratio(k)= 0.98981
k=508,shift(k)= 19.67887554107889,m(k)=10,delta(k)=1.01e-03,ratio(k)= 0.98981
k=509,shift(k)= 19.67887500470372,m(k)=10,delta(k)=1.00e-03,ratio(k)= 0.98981
k=510,shift(k)= 19.67887448165792,m(k)=10,delta(k)=9.91e-04,ratio(k)= 0.98981
k=511,shift(k)= 19.67887397161040,m(k)=10,delta(k)=9.81e-04,ratio(k)= 0.98981
k=512,shift(k)= 19.67887347423859,m(k)=10,delta(k)=9.71e-04,ratio(k)= 0.98981
k=513,shift(k)= 19.67887298922772,m(k)=10,delta(k)=9.61e-04,ratio(k)= 0.98981
k=514,shift(k)= 19.67887251627090,m(k)=10,delta(k)=9.51e-04,ratio(k)= 0.98981
k=515,shift(k)= 19.67887205506933,m(k)=10,delta(k)=9.42e-04,ratio(k)= 0.98981
k=516,shift(k)= 19.67887160533058,m(k)=10,delta(k)=9.32e-04,ratio(k)= 0.98981
k=517,shift(k)= 19.67887116677002,m(k)=10,delta(k)=9.23e-04,ratio(k)= 0.98981
k=518,shift(k)= 19.67887073911013,m(k)=10,delta(k)=9.13e-04,ratio(k)= 0.98981
k=519,shift(k)= 19.67887032208069,m(k)=10,delta(k)=9.04e-04,ratio(k)= 0.98981
k=520,shift(k)= 19.67886991541764,m(k)=10,delta(k)=8.95e-04,ratio(k)= 0.98981
k=521,shift(k)= 19.67886951886331,m(k)=10,delta(k)=8.86e-04,ratio(k)= 0.98981
```

```
k=522,shift(k)= 19.67886913216671,m(k)=10,delta(k)=8.77e-04,ratio(k)= 0.98981
k=523,shift(k)= 19.67886875508296,m(k)=10,delta(k)=8.68e-04,ratio(k)= 0.98981
k=524,shift(k)= 19.67886838737362,m(k)=10,delta(k)=8.59e-04,ratio(k)= 0.98981
k=525,shift(k)= 19.67886802880551,m(k)=10,delta(k)=8.50e-04,ratio(k)= 0.98981
k=526,shift(k)= 19.67886767915116,m(k)=10,delta(k)=8.41e-04,ratio(k)= 0.98981
k=527,shift(k)= 19.67886733819021,m(k)=10,delta(k)=8.33e-04,ratio(k)= 0.98981
k=528,shift(k)= 19.67886700570594,m(k)=10,delta(k)=8.24e-04,ratio(k)= 0.98981
k=529,shift(k)= 19.67886668148849,m(k)=10,delta(k)=8.16e-04,ratio(k)= 0.98981
k=530,shift(k)= 19.67886636533157,m(k)=10,delta(k)=8.08e-04,ratio(k)= 0.98981
k=531,shift(k)= 19.67886605703587,m(k)=10,delta(k)=7.99e-04,ratio(k)= 0.98981
k=532,shift(k)= 19.67886575640560,m(k)=10,delta(k)=7.91e-04,ratio(k)= 0.98981
k=533,shift(k)= 19.67886546325083,m(k)=10,delta(k)=7.83e-04,ratio(k)= 0.98981
k=534,shift(k)= 19.67886517738521,m(k)=10,delta(k)=7.75e-04,ratio(k)= 0.98981
k=535,shift(k)= 19.67886489862784,m(k)=10,delta(k)=7.67e-04,ratio(k)= 0.98981
k=536,shift(k)= 19.67886462680197,m(k)=10,delta(k)=7.59e-04,ratio(k)= 0.98981
k=537,shift(k)= 19.67886436173571,m(k)=10,delta(k)=7.52e-04,ratio(k)= 0.98981
k=538,shift(k)= 19.67886410326103,m(k)=10,delta(k)=7.44e-04,ratio(k)= 0.98981
k=539,shift(k)= 19.67886385121378,m(k)=10,delta(k)=7.37e-04,ratio(k)= 0.98981
k=540,shift(k)= 19.67886360543474,m(k)=10,delta(k)=7.29e-04,ratio(k)= 0.98981
k=541,shift(k)= 19.67886336576740,m(k)=10,delta(k)=7.22e-04,ratio(k)= 0.98981
k=542,shift(k)= 19.67886313206114,m(k)=10,delta(k)=7.14e-04,ratio(k)= 0.98981
k=543,shift(k)= 19.67886290416666,m(k)=10,delta(k)=7.07e-04,ratio(k)= 0.98981
k=544,shift(k)= 19.67886268194023,m(k)=10,delta(k)=7.00e-04,ratio(k)= 0.98981
k=545,shift(k)= 19.67886246524035,m(k)=10,delta(k)=6.93e-04,ratio(k)= 0.98981
k=546,shift(k)= 19.67886225393007,m(k)=10,delta(k)=6.86e-04,ratio(k)= 0.98981
k=547,shift(k)= 19.67886204787538,m(k)=10,delta(k)=6.79e-04,ratio(k)= 0.98981
k=548,shift(k)= 19.67886184694541,m(k)=10,delta(k)=6.72e-04,ratio(k)= 0.98981
k=549,shift(k)= 19.67886165101315,m(k)=10,delta(k)=6.65e-04,ratio(k)= 0.98981
k=550,shift(k)= 19.67886145995456,m(k)=10,delta(k)=6.58e-04,ratio(k)= 0.98981
k=551,shift(k)= 19.67886127364804,m(k)=10,delta(k)=6.51e-04,ratio(k)= 0.98981
k=552,shift(k)= 19.67886109197548,m(k)=10,delta(k)=6.45e-04,ratio(k)= 0.98981
k=553,shift(k)= 19.67886091482225,m(k)=10,delta(k)=6.38e-04,ratio(k)= 0.98981
k=554,shift(k)= 19.67886074207528,m(k)=10,delta(k)=6.32e-04,ratio(k)= 0.98981
k=555,shift(k)= 19.67886057362517,m(k)=10,delta(k)=6.25e-04,ratio(k)= 0.98981
k=556,shift(k)= 19.67886040936540,m(k)=10,delta(k)=6.19e-04,ratio(k)= 0.98981
k=557,shift(k)= 19.67886024919168,m(k)=10,delta(k)=6.13e-04,ratio(k)= 0.98981
k=558,shift(k)= 19.67886009300229,m(k)=10,delta(k)=6.06e-04,ratio(k)= 0.98981
k=559,shift(k)= 19.67885994069841,m(k)=10,delta(k)=6.00e-04,ratio(k)= 0.98981
k=560,shift(k)= 19.67885979218320,m(k)=10,delta(k)=5.94e-04,ratio(k)= 0.98981
k=561,shift(k)= 19.67885964736247,m(k)=10,delta(k)=5.88e-04,ratio(k)= 0.98981
k=562,shift(k)= 19.67885950614487,m(k)=10,delta(k)=5.82e-04,ratio(k)= 0.98981
k=563,shift(k)= 19.67885936844010,m(k)=10,delta(k)=5.76e-04,ratio(k)= 0.98981
k=564,shift(k)= 19.67885923416101,m(k)=10,delta(k)=5.70e-04,ratio(k)= 0.98981
k=565,shift(k)= 19.67885910322279,m(k)=10,delta(k)=5.64e-04,ratio(k)= 0.98981
k=566,shift(k)= 19.67885897554200,m(k)=10,delta(k)=5.59e-04,ratio(k)= 0.98981
k=567,shift(k)= 19.67885885103822,m(k)=10,delta(k)=5.53e-04,ratio(k)= 0.98981
k=568,shift(k)= 19.67885872963178,m(k)=10,delta(k)=5.47e-04,ratio(k)= 0.98981
k=569,shift(k)= 19.67885861124577,m(k)=10,delta(k)=5.42e-04,ratio(k)= 0.98981
k=570,shift(k)= 19.67885849580506,m(k)=10,delta(k)=5.36e-04,ratio(k)= 0.98981
k=571,shift(k)= 19.67885838323683,m(k)=10,delta(k)=5.31e-04,ratio(k)= 0.98981
k=572,shift(k)= 19.67885827346927,m(k)=10,delta(k)=5.25e-04,ratio(k)= 0.98981
k=573,shift(k)= 19.67885816643265,m(k)=10,delta(k)=5.20e-04,ratio(k)= 0.98981
k=574,shift(k)= 19.67885806205937,m(k)=10,delta(k)=5.15e-04,ratio(k)= 0.98981
k=575,shift(k)= 19.67885796028314,m(k)=10,delta(k)=5.09e-04,ratio(k)= 0.98981
k=576,shift(k)= 19.67885786103903,m(k)=10,delta(k)=5.04e-04,ratio(k)= 0.98981
k=577,shift(k)= 19.67885776426403,m(k)=10,delta(k)=4.99e-04,ratio(k)= 0.98981
k=578,shift(k)= 19.67885766989727,m(k)=10,delta(k)=4.94e-04,ratio(k)= 0.98981
k=579,shift(k)= 19.67885757787850,m(k)=10,delta(k)=4.89e-04,ratio(k)= 0.98981
```

```
k=580,shift(k)= 19.67885748814967,m(k)=10,delta(k)=4.84e-04,ratio(k)= 0.98981
k=581,shift(k)= 19.67885740065329,m(k)=10,delta(k)=4.79e-04,ratio(k)= 0.98981
k=582,shift(k)= 19.67885731533412,m(k)=10,delta(k)=4.74e-04,ratio(k)= 0.98981
k=583,shift(k)= 19.67885723213792,m(k)=10,delta(k)=4.69e-04,ratio(k)= 0.98981
k=584,shift(k)= 19.67885715101208,m(k)=10,delta(k)=4.65e-04,ratio(k)= 0.98981
k=585,shift(k)= 19.67885707190505,m(k)=10,delta(k)=4.60e-04,ratio(k)= 0.98981
k=586,shift(k)= 19.67885699476667,m(k)=10,delta(k)=4.55e-04,ratio(k)= 0.98981
k=587,shift(k)= 19.67885691954769,m(k)=10,delta(k)=4.51e-04,ratio(k)= 0.98981
k=588,shift(k)= 19.67885684620068,m(k)=10,delta(k)=4.46e-04,ratio(k)= 0.98981
k=589,shift(k)= 19.67885677467867,m(k)=10,delta(k)=4.41e-04,ratio(k)= 0.98981
k=590,shift(k)= 19.67885670493695,m(k)=10,delta(k)=4.37e-04,ratio(k)= 0.98981
k=591,shift(k)= 19.67885663693040,m(k)=10,delta(k)=4.32e-04,ratio(k)= 0.98981
k=592,shift(k)= 19.67885657061642,m(k)=10,delta(k)=4.28e-04,ratio(k)= 0.98981
k=593,shift(k)= 19.67885650595246,m(k)=10,delta(k)=4.24e-04,ratio(k)= 0.98981
k=594,shift(k)= 19.67885644289797,m(k)=10,delta(k)=4.19e-04,ratio(k)= 0.98981
k=595,shift(k)= 19.67885638141268,m(k)=10,delta(k)=4.15e-04,ratio(k)= 0.98981
k=596,shift(k)= 19.67885632145771,m(k)=10,delta(k)=4.11e-04,ratio(k)= 0.98981
k=597,shift(k)= 19.67885626299415,m(k)=10,delta(k)=4.07e-04,ratio(k)= 0.98981
k=598,shift(k)= 19.67885620598626,m(k)=10,delta(k)=4.03e-04,ratio(k)= 0.98981
k=599,shift(k)= 19.67885615039679,m(k)=10,delta(k)=3.98e-04,ratio(k)= 0.98981
k=600,shift(k)= 19.67885609619062,m(k)=10,delta(k)=3.94e-04,ratio(k)= 0.98981
k=601,shift(k)= 19.67885604333348,m(k)=10,delta(k)=3.90e-04,ratio(k)= 0.98981
k=602,shift(k)= 19.67885599179220,m(k)=10,delta(k)=3.86e-04,ratio(k)= 0.98981
k=603,shift(k)= 19.67885594153346,m(k)=10,delta(k)=3.82e-04,ratio(k)= 0.98981
k=604,shift(k)= 19.67885589252548,m(k)=10,delta(k)=3.79e-04,ratio(k)= 0.98981
k=605,shift(k)= 19.67885584473753,m(k)=10,delta(k)=3.75e-04,ratio(k)= 0.98981
k=606,shift(k)= 19.67885579813908,m(k)=10,delta(k)=3.71e-04,ratio(k)= 0.98981
k=607,shift(k)= 19.67885575270040,m(k)=10,delta(k)=3.67e-04,ratio(k)= 0.98981
k=608,shift(k)= 19.67885570839213,m(k)=10,delta(k)=3.63e-04,ratio(k)= 0.98981
k=609,shift(k)= 19.67885566518663,m(k)=10,delta(k)=3.60e-04,ratio(k)= 0.98981
k=610,shift(k)= 19.67885562305684,m(k)=10,delta(k)=3.56e-04,ratio(k)= 0.98981
k=611,shift(k)= 19.67885558197569,m(k)=10,delta(k)=3.52e-04,ratio(k)= 0.98981
k=612,shift(k)= 19.67885554191662,m(k)=10,delta(k)=3.49e-04,ratio(k)= 0.98981
k=613,shift(k)= 19.67885550285462,m(k)=10,delta(k)=3.45e-04,ratio(k)= 0.98981
k=614,shift(k)= 19.67885546476503,m(k)=10,delta(k)=3.42e-04,ratio(k)= 0.98981
k=615,shift(k)= 19.67885542762378,m(k)=10,delta(k)=3.38e-04,ratio(k)= 0.98981
k=616,shift(k)= 19.67885539140682,m(k)=10,delta(k)=3.35e-04,ratio(k)= 0.98981
k=617,shift(k)= 19.67885535609139,m(k)=10,delta(k)=3.31e-04,ratio(k)= 0.98981
k=618,shift(k)= 19.67885532165498,m(k)=10,delta(k)=3.28e-04,ratio(k)= 0.98981
k=619,shift(k)= 19.67885528807570,m(k)=10,delta(k)=3.25e-04,ratio(k)= 0.98981
k=620,shift(k)= 19.67885525533211,m(k)=10,delta(k)=3.21e-04,ratio(k)= 0.98981
k=621,shift(k)= 19.67885522340361,m(k)=10,delta(k)=3.18e-04,ratio(k)= 0.98981
k=622,shift(k)= 19.67885519226954,m(k)=10,delta(k)=3.15e-04,ratio(k)= 0.98981
k=623,shift(k)= 19.67885516191066,m(k)=10,delta(k)=3.12e-04,ratio(k)= 0.98981
k=624,shift(k)= 19.67885513230748,m(k)=10,delta(k)=3.08e-04,ratio(k)= 0.98981
k=625,shift(k)= 19.67885510344089,m(k)=10,delta(k)=3.05e-04,ratio(k)= 0.98981
k=626,shift(k)= 19.67885507529287,m(k)=10,delta(k)=3.02e-04,ratio(k)= 0.98981
k=627,shift(k)= 19.67885504784593,m(k)=10,delta(k)=2.99e-04,ratio(k)= 0.98981
k=628,shift(k)= 19.67885502108227,m(k)=10,delta(k)=2.96e-04,ratio(k)= 0.98981
k=629,shift(k)= 19.67885499498468,m(k)=10,delta(k)=2.93e-04,ratio(k)= 0.98981
k=630,shift(k)= 19.67885496953723,m(k)=10,delta(k)=2.90e-04,ratio(k)= 0.98981
k=631,shift(k)= 19.67885494472267,m(k)=10,delta(k)=2.87e-04,ratio(k)= 0.98981
k=632,shift(k)= 19.67885492052577,m(k)=10,delta(k)=2.84e-04,ratio(k)= 0.98981
k=633,shift(k)= 19.67885489693120,m(k)=10,delta(k)=2.81e-04,ratio(k)= 0.98981
k=634,shift(k)= 19.67885487392377,m(k)=10,delta(k)=2.78e-04,ratio(k)= 0.98981
k=635,shift(k)= 19.67885485148925,m(k)=10,delta(k)=2.76e-04,ratio(k)= 0.98981
k=636,shift(k)= 19.67885482961339,m(k)=10,delta(k)=2.73e-04,ratio(k)= 0.98981
k=637,shift(k)= 19.67885480828190,m(k)=10,delta(k)=2.70e-04,ratio(k)= 0.98981
```

```
k=638,shift(k)= 19.67885478748117,m(k)=10,delta(k)=2.67e-04,ratio(k)= 0.98981
k=639,shift(k)= 19.67885476719841,m(k)=10,delta(k)=2.65e-04,ratio(k)= 0.98981
k=640,shift(k)= 19.67885474742035,m(k)=10,delta(k)=2.62e-04,ratio(k)= 0.98981
k=641,shift(k)= 19.67885472813457,m(k)=10,delta(k)=2.59e-04,ratio(k)= 0.98981
k=642,shift(k)= 19.67885470932919,m(k)=10,delta(k)=2.57e-04,ratio(k)= 0.98981
k=643,shift(k)= 19.67885469099182,m(k)=10,delta(k)=2.54e-04,ratio(k)= 0.98981
k=644,shift(k)= 19.67885467311095,m(k)=10,delta(k)=2.51e-04,ratio(k)= 0.98981
k=645,shift(k)= 19.67885465567550,m(k)=10,delta(k)=2.49e-04,ratio(k)= 0.98981
k=646,shift(k)= 19.67885463867440,m(k)=10,delta(k)=2.46e-04,ratio(k)= 0.98981
k=647,shift(k)= 19.67885462209560,m(k)=10,delta(k)=2.44e-04,ratio(k)= 0.98981
k=648,shift(k)= 19.67885460593005,m(k)=10,delta(k)=2.41e-04,ratio(k)= 0.98981
k=649,shift(k)= 19.67885459016689,m(k)=10,delta(k)=2.39e-04,ratio(k)= 0.98981
k=650,shift(k)= 19.67885457479634,m(k)=10,delta(k)=2.36e-04,ratio(k)= 0.98981
k=651,shift(k)= 19.67885455980818,m(k)=10,delta(k)=2.34e-04,ratio(k)= 0.98981
k=652,shift(k)= 19.67885454519317,m(k)=10,delta(k)=2.32e-04,ratio(k)= 0.98981
k=653,shift(k)= 19.67885453094234,m(k)=10,delta(k)=2.29e-04,ratio(k)= 0.98981
k=654,shift(k)= 19.67885451704608,m(k)=10,delta(k)=2.27e-04,ratio(k)= 0.98981
k=655,shift(k)= 19.67885450349547,m(k)=10,delta(k)=2.25e-04,ratio(k)= 0.98981
k=656,shift(k)= 19.67885449028232,m(k)=10,delta(k)=2.22e-04,ratio(k)= 0.98981
k=657,shift(k)= 19.67885447739827,m(k)=10,delta(k)=2.20e-04,ratio(k)= 0.98981
k=658,shift(k)= 19.67885446483456,m(k)=10,delta(k)=2.18e-04,ratio(k)= 0.98981
k=659,shift(k)= 19.67885445258444,m(k)=10,delta(k)=2.16e-04,ratio(k)= 0.98981
k=660,shift(k)= 19.67885444063870,m(k)=10,delta(k)=2.13e-04,ratio(k)= 0.98981
k=661,shift(k)= 19.67885442899038,m(k)=10,delta(k)=2.11e-04,ratio(k)= 0.98981
k=662,shift(k)= 19.67885441763174,m(k)=10,delta(k)=2.09e-04,ratio(k)= 0.98981
k=663,shift(k)= 19.67885440655649,m(k)=10,delta(k)=2.07e-04,ratio(k)= 0.98981
k=664,shift(k)= 19.67885439575684,m(k)=10,delta(k)=2.05e-04,ratio(k)= 0.98981
k=665,shift(k)= 19.67885438522624,m(k)=10,delta(k)=2.03e-04,ratio(k)= 0.98981
k=666,shift(k)= 19.67885437495783,m(k)=10,delta(k)=2.01e-04,ratio(k)= 0.98981
k=667,shift(k)= 19.67885436494484,m(k)=10,delta(k)=1.99e-04,ratio(k)= 0.98981
k=668,shift(k)= 19.67885435518071,m(k)=10,delta(k)=1.97e-04,ratio(k)= 0.98981
k=669,shift(k)= 19.67885434565995,m(k)=10,delta(k)=1.95e-04,ratio(k)= 0.98981
k=670,shift(k)= 19.67885433637634,m(k)=10,delta(k)=1.93e-04,ratio(k)= 0.98981
k=671,shift(k)= 19.67885432732406,m(k)=10,delta(k)=1.91e-04,ratio(k)= 0.98981
k=672,shift(k)= 19.67885431849691,m(k)=10,delta(k)=1.89e-04,ratio(k)= 0.98981
k=673,shift(k)= 19.67885430988979,m(k)=10,delta(k)=1.87e-04,ratio(k)= 0.98981
k=674,shift(k)= 19.67885430149676,m(k)=10,delta(k)=1.85e-04,ratio(k)= 0.98981
k=675,shift(k)= 19.67885429331274,m(k)=10,delta(k)=1.83e-04,ratio(k)= 0.98981
k=676,shift(k)= 19.67885428533237,m(k)=10,delta(k)=1.81e-04,ratio(k)= 0.98981
k=677,shift(k)= 19.67885427755032,m(k)=10,delta(k)=1.79e-04,ratio(k)= 0.98981
k=678,shift(k)= 19.67885426996232,m(k)=10,delta(k)=1.77e-04,ratio(k)= 0.98981
k=679,shift(k)= 19.67885426256311,m(k)=10,delta(k)=1.76e-04,ratio(k)= 0.98981
k=680,shift(k)= 19.67885425534834,m(k)=10,delta(k)=1.74e-04,ratio(k)= 0.98981
k=681,shift(k)= 19.67885424831339,m(k)=10,delta(k)=1.72e-04,ratio(k)= 0.98981
k=682,shift(k)= 19.67885424145330,m(k)=10,delta(k)=1.70e-04,ratio(k)= 0.98981
k=683,shift(k)= 19.67885423476441,m(k)=10,delta(k)=1.69e-04,ratio(k)= 0.98981
k=684,shift(k)= 19.67885422824137,m(k)=10,delta(k)=1.67e-04,ratio(k)= 0.98981
k=685,shift(k)= 19.67885422188096,m(k)=10,delta(k)=1.65e-04,ratio(k)= 0.98981
k=686,shift(k)= 19.67885421567902,m(k)=10,delta(k)=1.63e-04,ratio(k)= 0.98981
k=687,shift(k)= 19.67885420963160,m(k)=10,delta(k)=1.62e-04,ratio(k)= 0.98981
k=688,shift(k)= 19.67885420373446,m(k)=10,delta(k)=1.60e-04,ratio(k)= 0.98981
k=689,shift(k)= 19.67885419798417,m(k)=10,delta(k)=1.59e-04,ratio(k)= 0.98981
k=690,shift(k)= 19.67885419237716,m(k)=10,delta(k)=1.57e-04,ratio(k)= 0.98981
k=691,shift(k)= 19.67885418690961,m(k)=10,delta(k)=1.55e-04,ratio(k)= 0.98981
k=692,shift(k)= 19.67885418157828,m(k)=10,delta(k)=1.54e-04,ratio(k)= 0.98981
k=693,shift(k)= 19.67885417637986,m(k)=10,delta(k)=1.52e-04,ratio(k)= 0.98981
k=694,shift(k)= 19.67885417131128,m(k)=10,delta(k)=1.51e-04,ratio(k)= 0.98981
k=695,shift(k)= 19.67885416636870,m(k)=10,delta(k)=1.49e-04,ratio(k)= 0.98981
```

```
k=696,shift(k)= 19.67885416154888,m(k)=10,delta(k)=1.48e-04,ratio(k)= 0.98981
k=697,shift(k)= 19.67885415684919,m(k)=10,delta(k)=1.46e-04,ratio(k)= 0.98981
k=698,shift(k)= 19.67885415226607,m(k)=10,delta(k)=1.45e-04,ratio(k)= 0.98981
k=699,shift(k)= 19.67885414779742,m(k)=10,delta(k)=1.43e-04,ratio(k)= 0.98981
k=700,shift(k)= 19.67885414343984,m(k)=10,delta(k)=1.42e-04,ratio(k)= 0.98981
k=701,shift(k)= 19.67885413919075,m(k)=10,delta(k)=1.40e-04,ratio(k)= 0.98981
k=702,shift(k)= 19.67885413504765,m(k)=10,delta(k)=1.39e-04,ratio(k)= 0.98981
k=703,shift(k)= 19.67885413100746,m(k)=10,delta(k)=1.37e-04,ratio(k)= 0.98981
k=704,shift(k)= 19.67885412706806,m(k)=10,delta(k)=1.36e-04,ratio(k)= 0.98981
k=705,shift(k)= 19.67885412322659,m(k)=10,delta(k)=1.35e-04,ratio(k)= 0.98981
k=706,shift(k)= 19.67885411948112,m(k)=10,delta(k)=1.33e-04,ratio(k)= 0.98981
k=707,shift(k)= 19.67885411582848,m(k)=10,delta(k)=1.32e-04,ratio(k)= 0.98981
k=708,shift(k)= 19.67885411226697,m(k)=10,delta(k)=1.30e-04,ratio(k)= 0.98981
k=709,shift(k)= 19.67885410879418,m(k)=10,delta(k)=1.29e-04,ratio(k)= 0.98981
k=710,shift(k)= 19.67885410540742,m(k)=10,delta(k)=1.28e-04,ratio(k)= 0.98981
k=711,shift(k)= 19.67885410210517,m(k)=10,delta(k)=1.27e-04,ratio(k)= 0.98981
k=712,shift(k)= 19.67885409888552,m(k)=10,delta(k)=1.25e-04,ratio(k)= 0.98981
k=713,shift(k)= 19.67885409574578,m(k)=10,delta(k)=1.24e-04,ratio(k)= 0.98981
k=714,shift(k)= 19.67885409268445,m(k)=10,delta(k)=1.23e-04,ratio(k)= 0.98981
k=715,shift(k)= 19.67885408969944,m(k)=10,delta(k)=1.21e-04,ratio(k)= 0.98981
k=716,shift(k)= 19.67885408678862,m(k)=10,delta(k)=1.20e-04,ratio(k)= 0.98981
k=717,shift(k)= 19.67885408395048,m(k)=10,delta(k)=1.19e-04,ratio(k)= 0.98981
k=718,shift(k)= 19.67885408118279,m(k)=10,delta(k)=1.18e-04,ratio(k)= 0.98981
k=719,shift(k)= 19.67885407848398,m(k)=10,delta(k)=1.17e-04,ratio(k)= 0.98981
k=720,shift(k)= 19.67885407585256,m(k)=10,delta(k)=1.15e-04,ratio(k)= 0.98981
k=721,shift(k)= 19.67885407328599,m(k)=10,delta(k)=1.14e-04,ratio(k)= 0.98981
k=722,shift(k)= 19.67885407078375,m(k)=10,delta(k)=1.13e-04,ratio(k)= 0.98981
k=723,shift(k)= 19.67885406834408,m(k)=10,delta(k)=1.12e-04,ratio(k)= 0.98981
k=724,shift(k)= 19.67885406596516,m(k)=10,delta(k)=1.11e-04,ratio(k)= 0.98981
k=725,shift(k)= 19.67885406364548,m(k)=10,delta(k)=1.10e-04,ratio(k)= 0.98981
k=726,shift(k)= 19.67885406138349,m(k)=10,delta(k)=1.09e-04,ratio(k)= 0.98981
k=727,shift(k)= 19.67885405917815,m(k)=10,delta(k)=1.07e-04,ratio(k)= 0.98981
k=728,shift(k)= 19.67885405702710,m(k)=10,delta(k)=1.06e-04,ratio(k)= 0.98981
k=729,shift(k)= 19.67885405492956,m(k)=10,delta(k)=1.05e-04,ratio(k)= 0.98981
k=730,shift(k)= 19.67885405288434,m(k)=10,delta(k)=1.04e-04,ratio(k)= 0.98981
k=731,shift(k)= 19.67885405088992,m(k)=10,delta(k)=1.03e-04,ratio(k)= 0.98981
k=732,shift(k)= 19.67885404894519,m(k)=10,delta(k)=1.02e-04,ratio(k)= 0.98981
k=733,shift(k)= 19.67885404704887,m(k)=10,delta(k)=1.01e-04,ratio(k)= 0.98981
k=734,shift(k)= 19.67885404519999,m(k)=10,delta(k)=1.00e-04,ratio(k)= 0.98981
k=735,shift(k)= 19.67885404339704,m(k)=10,delta(k)=9.90e-05,ratio(k)= 0.98981
k=736,shift(k)= 19.67885404163864,m(k)=10,delta(k)=9.80e-05,ratio(k)= 0.98981
k=737,shift(k)= 19.67885403992407,m(k)=10,delta(k)=9.70e-05,ratio(k)= 0.98981
k=738,shift(k)= 19.67885403825258,m(k)=10,delta(k)=9.60e-05,ratio(k)= 0.98981
k=739,shift(k)= 19.67885403662256,m(k)=10,delta(k)=9.50e-05,ratio(k)= 0.98981
k=740,shift(k)= 19.67885403503334,m(k)=10,delta(k)=9.40e-05,ratio(k)= 0.98981
k=741,shift(k)= 19.67885403348343,m(k)=10,delta(k)=9.31e-05,ratio(k)= 0.98981
k=742,shift(k)= 19.67885403197212,m(k)=10,delta(k)=9.21e-05,ratio(k)= 0.98981
k=743,shift(k)= 19.67885403049906,m(k)=10,delta(k)=9.12e-05,ratio(k)= 0.98981
k=744,shift(k)= 19.67885402906213,m(k)=10,delta(k)=9.03e-05,ratio(k)= 0.98981
k=745,shift(k)= 19.67885402766057,m(k)=10,delta(k)=8.93e-05,ratio(k)= 0.98981
k=746,shift(k)= 19.67885402629394,m(k)=10,delta(k)=8.84e-05,ratio(k)= 0.98981
k=747,shift(k)= 19.67885402496178,m(k)=10,delta(k)=8.75e-05,ratio(k)= 0.98981
k=748,shift(k)= 19.67885402366290,m(k)=10,delta(k)=8.66e-05,ratio(k)= 0.98981
k=749,shift(k)= 19.67885402239613,m(k)=10,delta(k)=8.57e-05,ratio(k)= 0.98981
k=750,shift(k)= 19.67885402116092,m(k)=10,delta(k)=8.49e-05,ratio(k)= 0.98981
Eigenvalue found, lambda=  3.93185165207897
k=751,shift(k)= 11.74201846579245,m(k)=9,delta(k)=8.34e-05,ratio(k)= 0.98288
Eigenvalue found, lambda=  3.73205080806804
```

```
k=752,shift(k)=  8.24264068711937,m(k)=8,delta(k)=8.14e-05,ratio(k)= 0.97556
Eigenvalue found, lambda=  3.41421356237301
k=753,shift(k)=  6.21939655491338,m(k)=7,delta(k)=7.87e-05,ratio(k)= 0.96752
Eigenvalue found, lambda=  2.99999999999993
k=754,shift(k)=  4.86370330515670,m(k)=6,delta(k)=7.55e-05,ratio(k)= 0.95834
Eigenvalue found, lambda=  2.51763809020501
k=755,shift(k)=  3.86370330515726,m(k)=5,delta(k)=7.15e-05,ratio(k)= 0.94736
Eigenvalue found, lambda=  2.00000000000002
k=756,shift(k)=  1.65335987410644,m(k)=4,delta(k)=6.25e-05,ratio(k)= 0.87396
Eigenvalue found, lambda=  1.48236190979511
k=757,shift(k)=  1.84303888382545,m(k)=3,delta(k)=5.54e-05,ratio(k)= 0.88743
Eigenvalue found, lambda=  0.58578643762593
k=758,shift(k)=  1.34108141904978,m(k)=2,delta(k)=4.67e-05,ratio(k)= 0.84304
k=759,shift(k)=  1.34108140700144,m(k)=2,delta(k)=3.94e-05,ratio(k)= 0.84304
k=760,shift(k)=  1.34108139843852,m(k)=2,delta(k)=3.32e-05,ratio(k)= 0.84304
k=761,shift(k)=  1.34108139235272,m(k)=2,delta(k)=2.80e-05,ratio(k)= 0.84304
k=762,shift(k)=  1.34108138802745,m(k)=2,delta(k)=2.36e-05,ratio(k)= 0.84304
k=763,shift(k)=  1.34108138495342,m(k)=2,delta(k)=1.99e-05,ratio(k)= 0.84304
k=764,shift(k)=  1.34108138276866,m(k)=2,delta(k)=1.68e-05,ratio(k)= 0.84304
k=765,shift(k)=  1.34108138121592,m(k)=2,delta(k)=1.41e-05,ratio(k)= 0.84304
k=766,shift(k)=  1.34108138011236,m(k)=2,delta(k)=1.19e-05,ratio(k)= 0.84304
k=767,shift(k)=  1.34108137932805,m(k)=2,delta(k)=1.01e-05,ratio(k)= 0.84304
k=768,shift(k)=  1.34108137877063,m(k)=2,delta(k)=8.48e-06,ratio(k)= 0.84304
Eigenvalue found, lambda=  0.26794919207258
converged
Sorted Eigenvalues are:
    0.0681
    0.2679
    0.5858
    1.0000
    1.4824
    2.0000
    2.5176
    3.0000
    3.4142
    3.7321
    3.9319

maxErr = 4.99e-10
>>
```

```
k=752,shift(k)=  8.24264068711937,m(k)=8,delta(k)=8.14e-05,ratio(k)= 0.97556
Eigenvalue found, lambda=  3.41421356237301
k=753,shift(k)=  6.21939655491338,m(k)=7,delta(k)=7.87e-05,ratio(k)= 0.96752
Eigenvalue found, lambda=  2.99999999999993
k=754,shift(k)=  4.86370330515670,m(k)=6,delta(k)=7.55e-05,ratio(k)= 0.95834
Eigenvalue found, lambda=  2.51763809020501
k=755,shift(k)=  3.86370330515726,m(k)=5,delta(k)=7.15e-05,ratio(k)= 0.94736
Eigenvalue found, lambda=  2.00000000000002
k=756,shift(k)=  1.65335987410644,m(k)=4,delta(k)=6.25e-05,ratio(k)= 0.87396
Eigenvalue found, lambda=  1.48236190979511
k=757,shift(k)=  1.84303888382545,m(k)=3,delta(k)=5.54e-05,ratio(k)= 0.88743
Eigenvalue found, lambda=  0.58578643762593
k=758,shift(k)=  1.34108141904978,m(k)=2,delta(k)=4.67e-05,ratio(k)= 0.84304
k=759,shift(k)=  1.34108140700144,m(k)=2,delta(k)=3.94e-05,ratio(k)= 0.84304
k=760,shift(k)=  1.34108139843852,m(k)=2,delta(k)=3.32e-05,ratio(k)= 0.84304
k=761,shift(k)=  1.34108139235272,m(k)=2,delta(k)=2.80e-05,ratio(k)= 0.84304
k=762,shift(k)=  1.34108138802745,m(k)=2,delta(k)=2.36e-05,ratio(k)= 0.84304
k=763,shift(k)=  1.34108138495342,m(k)=2,delta(k)=1.99e-05,ratio(k)= 0.84304
k=764,shift(k)=  1.34108138276866,m(k)=2,delta(k)=1.68e-05,ratio(k)= 0.84304
k=765,shift(k)=  1.34108138121592,m(k)=2,delta(k)=1.41e-05,ratio(k)= 0.84304
k=766,shift(k)=  1.34108138011236,m(k)=2,delta(k)=1.19e-05,ratio(k)= 0.84304
k=767,shift(k)=  1.34108137932805,m(k)=2,delta(k)=1.01e-05,ratio(k)= 0.84304
k=768,shift(k)=  1.34108137877063,m(k)=2,delta(k)=8.48e-06,ratio(k)= 0.84304
Eigenvalue found, lambda=  0.26794919207258
converged
Sorted Eigenvalues are:
    0.0681
    0.2679
    0.5858
    1.0000
    1.4824
    2.0000
    2.5176
    3.0000
    3.4142
    3.7321
    3.9319

maxErr = 4.99e-10
>>
```