```
     1

>> P=binomialMatrixCreator(139,1);

expected =

     1

>> P=binomialMatrixCreator(140,1);

expected =

   1.4401e+05

>> P=binomialMatrixCreator(100,0);

expected =

   NaN

>> P=binomialMatrixCreator(100,.1);

expected =

   2.9749e+04

>> P=binomialMatrixCreator(100,.5);

expected =

    0.5000

>> P=binomialMatrixCreator(10,.5);

expected =

    0.5000

>> P=binomialMatrixCreator2(5,3,.8);
>> P=binomialMatrixCreator2(5,3,.8)

P =

  Columns 1 through 7

         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
         0         0         0         0         0         0    0.1600
         0         0         0         0         0    0.0190    0.1564
         0         0         0         0    0.0016    0.0256    0.1536
         0         0         0    0.0001    0.0028    0.0289    0.1517
```

```
         0         0         0    0.0001    0.0028    0.0289    0.1517
         0         0         0    0.0001    0.0028    0.0289    0.1517
         0         0         0    0.0001    0.0028    0.0289    0.1517

  Columns 8 through 9

         0    1.0000
    0.8000    0.2000
    0.4800    0.3600
    0.4302    0.3944
    0.4096    0.4096
    0.3983    0.4182
    0.3983    0.4182
    0.3983    0.4182
    0.3983    0.4182

>> sum(P')

ans =

  Columns 1 through 7

    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000    1.0000

  Columns 8 through 9

    1.0000    1.0000

>> [V,D,W]=eig(P)

V =

  Columns 1 through 7

    1.0000         0         0   -0.3333   -0.4996   -0.4872    0.5774
         0    1.0000         0   -0.3333   -0.4996   -0.4872    0.5774
         0         0    1.0000   -0.3333   -0.4996   -0.4872    0.5774
         0         0         0   -0.3333   -0.4996   -0.4872   -0.0000
         0         0         0   -0.3333    0.0410   -0.2252    0.0000
         0         0         0   -0.3333   -0.0001    0.0007   -0.0000
         0         0         0   -0.3333   -0.0001    0.0007    0.0000
         0         0         0   -0.3333   -0.0001    0.0007    0.0000
         0         0         0   -0.3333   -0.0001    0.0007    0.0000

  Columns 8 through 9

   -0.6849   -0.8438
   -0.6849    0.5321
   -0.2488    0.0691
    0.0000    0.0000
   -0.0000   -0.0000
```

```
    0.0000   -0.0000
    0.0000    0.0000
   -0.0000   -0.0000
   -0.0000    0.0000


D =

  Columns 1 through 7

         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
         0         0         0    1.0000         0         0         0
         0         0         0         0    0.0001         0         0
         0         0         0         0         0   -0.0014         0
         0         0         0         0         0         0    0.0000
         0         0         0         0         0         0         0
         0         0         0         0         0         0         0

  Columns 8 through 9

         0         0
         0         0
         0         0
         0         0
         0         0
         0         0
         0         0
    0.0000         0
         0         0


W =

  Columns 1 through 7

    0.0000         0         0         0         0         0         0
         0    0.0000         0         0         0         0         0
         0         0    0.0000         0         0         0         0
   -0.0000   -0.0000   -0.0000   -0.0002   -0.0127   -0.0062         0
   -0.0000   -0.0000   -0.0000   -0.0046    0.0274   -0.0759   -0.0000
    0.0000   -0.0000   -0.0000   -0.0483    0.2923   -0.2268   -0.1669
    0.0000   -0.0000   -0.0000   -0.2538   -0.0705    0.1242    0.8344
    0.7071   -0.7071   -0.7071   -0.6663   -0.7818    0.7670   -0.1706
   -0.7071    0.7071    0.7071   -0.6995    0.5454   -0.5822   -0.4969

  Columns 8 through 9

         0         0
         0         0
```

```
         0         0
         0         0
   -0.0000         0
   -0.0000   -0.0000
    0.7989   -0.0000
   -0.2537   -0.7071
   -0.5453    0.7071

>> pi=W(:,4)

pi =

         0
         0
         0
   -0.0002
   -0.0046
   -0.0483
   -0.2538
   -0.6663
   -0.6995

>> sum(pi)

ans =

   -1.6727

>> pi=pi/ans

pi =

         0
         0
         0
    0.0001
    0.0027
    0.0289
    0.1517
    0.3983
    0.4182

>> 2[(5-3)*pi(4)+(5-4)*pi(5)]+(6-5)*pi(7)+(7-5)*pi(8)+(8-5)*pi(9)
 2[(5-3)*pi(4)+(5-4)*pi(5)]+(6-5)*pi(7)+(7-5)*pi(8)+(8-5)*pi(9)
  |
Error: Unbalanced or unexpected parenthesis or bracket.

>> *
 *
 |
Error: Unexpected MATLAB operator.
```

```
>> 2*[(5-3)*pi(4)+(5-4)*pi(5)]+(6-5)*pi(7)+(7-5)*pi(8)+(8-5)*pi(9)

ans =

    2.2089

>> P=binomialMatrixCreator2(5,4,.8)

P =

  Columns 1 through 7

         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
         0         0         0         0         0         0    0.0190
         0         0         0         0         0    0.0016    0.0256
         0         0         0         0    0.0001    0.0028    0.0289
         0         0         0         0    0.0001    0.0028    0.0289
         0         0         0         0    0.0001    0.0028    0.0289
         0         0         0         0    0.0001    0.0028    0.0289
         0         0         0         0    0.0001    0.0028    0.0289

  Columns 8 through 10

         0         0    1.0000
         0    0.8000    0.2000
    0.1600    0.4800    0.3600
    0.1564    0.4302    0.3944
    0.1536    0.4096    0.4096
    0.1517    0.3983    0.4182
    0.1517    0.3983    0.4182
    0.1517    0.3983    0.4182
    0.1517    0.3983    0.4182
    0.1517    0.3983    0.4182

>> [V,D,W]=eig(P)

V =

  Columns 1 through 7

    1.0000         0         0         0   -0.4472   -0.3162   -0.5751
         0    1.0000         0         0   -0.4472   -0.3162   -0.5751
         0         0    1.0000         0   -0.4472   -0.3162   -0.5751
         0         0         0    1.0000   -0.4472   -0.3162   -0.0874
         0         0         0         0   -0.4472   -0.3162   -0.0000
         0         0         0         0    0.0000   -0.3162   -0.0000
         0         0         0         0    0.0000   -0.3162    0.0000
         0         0         0         0    0.0000   -0.3162   -0.0000
```

```
         0         0         0         0    0.0000   -0.3162   -0.0000
         0         0         0         0    0.0000   -0.3162   -0.0000

  Columns 8 through 10

   -0.5000   -0.8799    0.6318
   -0.5000   -0.3360    0.6318
   -0.5000   -0.3360    0.4490
   -0.5000   -0.0005    0.0070
   -0.0000   -0.0000    0.0000
    0.0000    0.0000   -0.0000
   -0.0000   -0.0000    0.0000
   -0.0000   -0.0000    0.0000
   -0.0000    0.0000   -0.0000
   -0.0000    0.0000   -0.0000


D =

  Columns 1 through 7

         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
         0         0         0         0   -0.0001         0         0
         0         0         0         0         0    1.0000         0
         0         0         0         0         0         0    0.0000
         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
         0         0         0         0         0         0         0

  Columns 8 through 10

         0         0         0
         0         0         0
         0         0         0
         0         0         0
         0         0         0
         0         0         0
         0         0         0
    0.0000         0         0
         0         0         0
         0         0   -0.0000


W =

  Columns 1 through 7

    0.0000         0         0         0         0         0         0
```

```
         0    0.0000         0         0         0         0         0
         0         0    0.0000         0         0         0         0
         0         0         0    0.0000         0         0         0
   -0.0000   -0.0000   -0.0000   -0.0000   -0.0071   -0.0002         0
         0         0         0         0   -0.0781   -0.0046   -0.0000
         0         0         0         0   -0.2238   -0.0483    0.0393
         0         0         0         0    0.1266   -0.2538   -0.8215
    0.7071    0.7071    0.7071    0.7071    0.7661   -0.6662    0.4854
   -0.7071   -0.7071   -0.7071   -0.7071   -0.5837   -0.6995    0.2968

  Columns 8 through 10

         0         0         0
         0         0         0
         0         0         0
         0         0         0
         0         0         0
    0.0198         0    0.0000
    0.0402         0    0.0000
    0.7561         0    0.4082
   -0.6241   -0.7071   -0.8165
   -0.1920    0.7071    0.4082

>> pi=W(:.6)
 pi=W(:.6)
        |
Error: Unexpected MATLAB expression.

>> pi=W(:,6)

pi =

         0
         0
         0
         0
   -0.0002
   -0.0046
   -0.0483
   -0.2538
   -0.6662
   -0.6995

>> pi=pi/sum(pi)

pi =

         0
         0
         0
         0
```

```
    0.0001
    0.0028
    0.0289
    0.1517
    0.3983
    0.4182

>> sum(pi
 sum(pi
       |
Error: Expression or statement is incorrect--possibly unbalanced (, {, or [.

Did you mean:
>> sum(pi)

ans =

     1

>> pi

pi =

         0
         0
         0
         0
    0.0001
    0.0028
    0.0289
    0.1517
    0.3983
    0.4182

>> pi(1)+2*((5-1)*pi(2)+(5-2)*pi(3)+(5-3)*pi(4)+(5-4)*pi(5))+(6-5)*pi(7)+(7-5)*pi(8)+(8-↙
5)*pi(9)+(9-5)*pi(10)

ans =

    3.2003

>> P=binomialMatrixCreator2(5,2,.8)

P =

  Columns 1 through 7

         0         0         0         0         0         0         0
         0         0         0         0         0         0    0.8000
         0         0         0         0         0    0.1600    0.4800
         0         0         0         0    0.0190    0.1564    0.4302
```

```
         0         0         0    0.0016    0.0256    0.1536    0.4096
         0         0    0.0001    0.0028    0.0289    0.1517    0.3983
         0         0    0.0001    0.0028    0.0289    0.1517    0.3983
         0         0    0.0001    0.0028    0.0289    0.1517    0.3983

  Column 8

    1.0000
    0.2000
    0.3600
    0.3944
    0.4096
    0.4182
    0.4182
    0.4182

>> [V,D,W]=eig(P)

V =

  Columns 1 through 7

    1.0000         0    0.3536   -0.5538   -0.5760   -0.5750   -1.0000
         0    1.0000    0.3536   -0.5538   -0.5760   -0.5750    0.0000
         0         0    0.3536   -0.5538   -0.5760   -0.5750   -0.0000
         0         0    0.3536   -0.2645   -0.0617    0.0897   -0.0000
         0         0    0.3536   -0.1004    0.0291   -0.0146   -0.0000
         0         0    0.3536    0.0038   -0.0006    0.0002   -0.0000
         0         0    0.3536    0.0038   -0.0006    0.0002   -0.0000
         0         0    0.3536    0.0038   -0.0006    0.0002    0.0000

  Column 8

    0.7071
    0.7071
    0.0000
    0.0000
    0.0000
    0.0000
   -0.0000
   -0.0000


D =

  Columns 1 through 7

         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
         0         0    1.0000         0         0         0         0
         0         0         0   -0.0068         0         0         0
```

```
         0         0         0         0    0.0011         0         0
         0         0         0         0         0   -0.0004         0
         0         0         0         0         0         0         0
         0         0         0         0         0         0         0

  Column 8

         0
         0
         0
         0
         0
         0
         0
   -0.0000


W =

  Columns 1 through 7

    0.0000         0         0         0         0         0         0
         0    0.0000         0         0         0         0         0
   -0.0000   -0.0000    0.0002   -0.0047   -0.0267   -0.0515         0
         0         0    0.0045   -0.0695   -0.1035    0.2750         0
         0         0    0.0481   -0.2344    0.4094   -0.4323         0
         0         0    0.2539    0.1178    0.0512   -0.1466         0
    0.7071   -0.7071    0.6669    0.7693   -0.7832    0.7479   -0.7071
   -0.7071    0.7071    0.6989   -0.5784    0.4527   -0.3924    0.7071

  Column 8

         0
         0
         0
    0.0000
   -0.0000
    0.4082
   -0.8165
    0.4082

>> pi=W(:,3)/sum(W(:,3))

pi =

         0
         0
    0.0001
    0.0027
    0.0288
    0.1518
```

```
    0.3987
    0.4179

>> (5-2)*pi(3)+2*((5-3)*pi(4)+(5-4)*pi(5))+(6-5)*pi(7)+(7-5)*pi(8)

ans =

    1.3032

>> P=binomialMatrixCreator2(5,1,.8)
Error: File: binomialMatrixCreator2.m Line: 16 Column: 2
Expression or statement is incorrect--possibly unbalanced (, {, or [.

>> P=binomialMatrixCreator2(5,1,.8)

P =

         0         0         0         0         0         0    1.0000
         0         0         0         0         0    0.8000    0.2000
         0         0         0         0    0.1600    0.4800    0.3600
         0         0         0    0.0190    0.1564    0.4302    0.3944
         0         0    0.0016    0.0256    0.1536    0.4096    0.4096
         0    0.0001    0.0028    0.0289    0.1517    0.3983    0.4182
         0    0.0001    0.0028    0.0289    0.1517    0.3983    0.4182

>> 2-ans

ans =

    0.6968

>> 3-2.2089

ans =

    0.7911

>> 4-3.2003

ans =

    0.7997

>> .7997-.7911

ans =

    0.0086

>> .7911-.6968
```

```
ans =

    0.0943

>> P=binomialMatrixCreator2(5,1,.8)

P =

         0         0         0         0         0         0    1.0000
         0         0         0         0         0    0.8000    0.2000
         0         0         0         0    0.1600    0.4800    0.3600
         0         0         0    0.0190    0.1564    0.4302    0.3944
         0         0    0.0016    0.0256    0.1536    0.4096    0.4096
         0    0.0001    0.0028    0.0289    0.1517    0.3983    0.4182
         0    0.0001    0.0028    0.0289    0.1517    0.3983    0.4182

>> [V,D,W]=eig(P)

V =

    1.0000   -0.3780    0.6846   -0.7070   -0.7062   -0.7044   -1.0000
         0   -0.3780    0.6846   -0.7070   -0.7062   -0.7044   -0.0000
         0   -0.3780    0.2273    0.0083   -0.0449    0.0855   -0.0000
         0   -0.3780    0.0984    0.0008    0.0157   -0.0109   -0.0000
         0   -0.3780    0.0322   -0.0120    0.0165    0.0095   -0.0000
         0   -0.3780   -0.0101    0.0023   -0.0034   -0.0016   -0.0000
         0   -0.3780   -0.0101    0.0023   -0.0034   -0.0016    0.0000


D =

         0         0         0         0         0         0         0
         0    1.0000         0         0         0         0         0
         0         0   -0.0148         0         0         0         0
         0         0         0   -0.0032         0         0         0
         0         0         0         0    0.0048         0         0
         0         0         0         0         0    0.0022         0
         0         0         0         0         0         0   -0.0000


W =

    0.0000         0         0         0         0         0         0
   -0.0000   -0.0001    0.0015   -0.0141   -0.0100   -0.0108   -0.0000
   -0.0000   -0.0042    0.0489    0.0228   -0.1193    0.2105   -0.0000
    0.0000   -0.0469    0.2460    0.3459    0.1566   -0.6616    0.0000
   -0.0000   -0.2543   -0.0799   -0.7837    0.4328    0.6930   -0.0000
   -0.7071   -0.6705   -0.7818    0.5090   -0.8080   -0.1894   -0.7071
    0.7071   -0.6954    0.5652   -0.0799    0.3479   -0.0418    0.7071

>> pi=W(:,2)/sum(W(:,2))
```

```
pi =

         0
    0.0001
    0.0025
    0.0280
    0.1522
    0.4012
    0.4161

>> sum(pi)

ans =

     1

>> (5-1)*pi(2)+(5-2)*pi(3)+(5-3)*pi(4)+2*((5-4)*pi(5))+(6-5)*pi(7)

ans =

    0.7843

>> P=binomialMatrixCreator2(5,0,.8)

P =

         0         0         0         0         0    1.0000
         0         0         0         0    0.8000    0.2000
         0         0         0    0.1600    0.4800    0.3600
         0         0    0.0190    0.1564    0.4302    0.3944
         0    0.0016    0.0256    0.1536    0.4096    0.4096
    0.0001    0.0028    0.0289    0.1517    0.3983    0.4182

>> [V,D,W]=eig(P)

V =

  Columns 1 through 4

   0.4082 + 0.0000i   0.9944 + 0.0000i   0.9944 + 0.0000i  -0.9865 + 0.0000i
   0.4082 + 0.0000i  -0.0383 + 0.0914i  -0.0383 - 0.0914i  -0.0951 + 0.1175i
   0.4082 + 0.0000i  -0.0263 - 0.0106i  -0.0263 + 0.0106i  -0.0428 + 0.0365i
   0.4082 + 0.0000i  -0.0149 - 0.0126i  -0.0149 + 0.0126i  -0.0195 + 0.0136i
   0.4082 + 0.0000i  -0.0040 - 0.0003i  -0.0040 + 0.0003i  -0.0027 - 0.0011i
   0.4082 + 0.0000i   0.0112 + 0.0052i   0.0112 - 0.0052i   0.0132 - 0.0068i

  Columns 5 through 6

  -0.9865 + 0.0000i  -0.9979 + 0.0000i
  -0.0951 - 0.1175i  -0.0281 + 0.0000i
```

```
  -0.0428 - 0.0365i  -0.0550 + 0.0000i
  -0.0195 - 0.0136i  -0.0146 + 0.0000i
  -0.0027 + 0.0011i  -0.0025 + 0.0000i
   0.0132 + 0.0068i   0.0116 + 0.0000i


D =

  Columns 1 through 4

   1.0000 + 0.0000i   0.0000 + 0.0000i   0.0000 + 0.0000i   0.0000 + 0.0000i
   0.0000 + 0.0000i   0.0113 + 0.0053i   0.0000 + 0.0000i   0.0000 + 0.0000i
   0.0000 + 0.0000i   0.0000 + 0.0000i   0.0113 - 0.0053i   0.0000 + 0.0000i
   0.0000 + 0.0000i   0.0000 + 0.0000i   0.0000 + 0.0000i  -0.0134 + 0.0069i
   0.0000 + 0.0000i   0.0000 + 0.0000i   0.0000 + 0.0000i   0.0000 + 0.0000i
   0.0000 + 0.0000i   0.0000 + 0.0000i   0.0000 + 0.0000i   0.0000 + 0.0000i

  Columns 5 through 6

   0.0000 + 0.0000i   0.0000 + 0.0000i
   0.0000 + 0.0000i   0.0000 + 0.0000i
   0.0000 + 0.0000i   0.0000 + 0.0000i
   0.0000 + 0.0000i   0.0000 + 0.0000i
  -0.0134 - 0.0069i   0.0000 + 0.0000i
   0.0000 + 0.0000i  -0.0116 + 0.0000i


W =

  Columns 1 through 4

   0.0001 + 0.0000i  -0.0024 - 0.0025i  -0.0024 + 0.0025i   0.0026 - 0.0024i
   0.0030 + 0.0000i   0.0262 - 0.0227i   0.0262 + 0.0227i  -0.0041 - 0.0265i
   0.0421 + 0.0000i   0.0326 - 0.0257i   0.0326 + 0.0257i  -0.1522 + 0.1583i
   0.2552 + 0.0000i  -0.4436 + 0.1943i  -0.4436 - 0.1943i  -0.1241 - 0.2682i
   0.6842 + 0.0000i   0.7711 + 0.0000i   0.7711 + 0.0000i   0.7736 + 0.0000i
   0.6819 + 0.0000i  -0.3839 - 0.1434i  -0.3839 + 0.1434i  -0.4959 + 0.1389i

  Columns 5 through 6

   0.0026 + 0.0024i   0.0005 + 0.0000i
  -0.0041 + 0.0265i   0.0553 + 0.0000i
  -0.1522 - 0.1583i  -0.4962 + 0.0000i
  -0.1241 + 0.2682i   0.8056 + 0.0000i
   0.7736 + 0.0000i  -0.3149 + 0.0000i
  -0.4959 - 0.1389i  -0.0503 + 0.0000i

>> pi=W(:,1)/sum(W(:,1))

pi =
```

```
    0.0000
    0.0018
    0.0252
    0.1532
    0.4106
    0.4092

>> (5-0)*pi(1)+(5-1)*pi(2)+(5-2)*pi(3)+(5-3)*pi(4)+(5-4)*pi(5)

ans =

    0.8000

>> P=binomialMatrixCreator2(4,1,.8)

P =

         0         0         0         0         0    1.0000
         0         0         0         0    0.8000    0.2000
         0         0         0    0.1600    0.4800    0.3600
         0         0    0.0190    0.1564    0.4302    0.3944
         0    0.0016    0.0256    0.1536    0.4096    0.4096
         0    0.0016    0.0256    0.1536    0.4096    0.4096

>> [V,D,W]=eig(P)

V =

    1.0000    0.4082    0.7055    0.6899   -0.7049    1.0000
         0    0.4082    0.7055    0.6899   -0.7049   -0.0000
         0    0.4082   -0.0275    0.2074    0.0635   -0.0000
         0    0.4082   -0.0588    0.0656   -0.0465   -0.0000
         0    0.4082    0.0107   -0.0195    0.0080   -0.0000
         0    0.4082    0.0107   -0.0195    0.0080    0.0000


D =

         0         0         0         0         0         0
         0    1.0000         0         0         0         0
         0         0    0.0152         0         0         0
         0         0         0   -0.0282         0         0
         0         0         0         0   -0.0113         0
         0         0         0         0         0    0.0000


W =

    0.0000         0         0         0         0         0
    0.0000    0.0022    0.0484    0.0156   -0.0535   -0.0000
    0.0000    0.0398    0.0625    0.2297    0.4626   -0.0000
```

```
    0.0000    0.2562   -0.5707    0.0299   -0.7880   -0.0000
    0.7071    0.6905    0.7602   -0.8115    0.4020   -0.7071
   -0.7071    0.6752   -0.3004    0.5362   -0.0232    0.7071

>> pi=W(:,2)/sum(W(:,2))

pi =

         0
    0.0013
    0.0239
    0.1540
    0.4150
    0.4058

>> (5-1)*pi(2)+(5-2)*pi(3)+(5-3)*pi(4)+(5-4)*pi(5)

ans =

    0.8000

>> (4-1)*pi(2)+(4-2)*pi(3)+(4-3)*pi(4)+(5-4)*pi(6)

ans =

    0.6116

>> P=binomialMatrixCreator2(4,2,.8)

P =

         0         0         0         0         0         0    1.0000
         0         0         0         0         0    0.8000    0.2000
         0         0         0         0    0.1600    0.4800    0.3600
         0         0         0    0.0190    0.1564    0.4302    0.3944
         0         0    0.0016    0.0256    0.1536    0.4096    0.4096
         0         0    0.0016    0.0256    0.1536    0.4096    0.4096
         0         0    0.0016    0.0256    0.1536    0.4096    0.4096

>> [V,D,W]=eig(P)

V =

    1.0000         0   -0.3780   -0.5747    0.5652    0.5547    0.7071
         0    1.0000   -0.3780   -0.5747    0.5652   -0.8321    0.7071
         0         0   -0.3780   -0.5747    0.5652    0.0000   -0.0000
         0         0   -0.3780    0.0960    0.2035    0.0000   -0.0000
         0         0   -0.3780   -0.0016   -0.0062   -0.0000   -0.0000
         0         0   -0.3780   -0.0016   -0.0062    0.0000    0.0000
         0         0   -0.3780   -0.0016   -0.0062   -0.0000    0.0000
```

```
D =

         0         0         0         0         0         0         0
         0         0         0         0         0         0         0
         0         0    1.0000         0         0         0         0
         0         0         0    0.0028         0         0         0
         0         0         0         0   -0.0110         0         0
         0         0         0         0         0         0         0
         0         0         0         0         0         0    0.0000


W =

    0.0000         0         0         0         0         0         0
         0    0.0000         0         0         0         0         0
   -0.0000   -0.0000   -0.0026   -0.1510    0.0446         0         0
         0         0   -0.0423    0.4115    0.2618         0   -0.0000
         0         0   -0.2562    0.0739   -0.0937         0   -0.4082
    0.7071   -0.7071   -0.6838   -0.7781   -0.7765    0.7071   -0.4082
   -0.7071    0.7071   -0.6819    0.4438    0.5637   -0.7071    0.8165

>> pi=W(:,3)/sum(W(:,3))

pi =

         0
         0
    0.0016
    0.0254
    0.1537
    0.4102
    0.4091

>> 2*((4-2)*pi(3)+(4-3)*pi(4))+(5-4)*pi(6)+(6-4)*pi(7)

ans =

    1.2855

>>
```