Example2.1

INPUT FILE NAME -C:\Users\USMAN IFTIKHAR\Desktop\kenpav files\OK Examples\Example2.1.DAT

NUMBER OF PROBLEMS TO BE SOLVED = 1

TITLE -Example2.1

MATL = 1 FOR LINEAR ELASTIC LAYERED SYSTEM
NDAMA = 0, SO DAMAGE ANALYSIS WILL NOT BE PERFORMED
NUMBER OF PERIODS PER YEAR (NPY) = 1
NUMBER OF LOAD GROUPS (NLG) = 1
TOLERANCE FOR INTEGRATION (DEL) -- = 0.001
NUMBER OF LAYERS (NL)------------- = 2
NUMBER OF Z COORDINATES (NZ)------ = 1
LIMIT OF INTEGRATION CYCLES (ICL)- = 80
COMPUTING CODE (NSTD)------------- = 9
SYSTEM OF UNITS (NUNIT)------------= 0

Length and displacement in in., stress and modulus in psi
unit weight in pcf, and temperature in F

THICKNESSES OF LAYERS (TH) ARE : 10
POISSON'S RATIOS OF LAYERS (PR) ARE : 0.5 0.5
VERTICAL COORDINATES OF POINTS (ZC) ARE: 10
ALL INTERFACES ARE FULLY BONDED

FOR PERIOD NO. 1 LAYER NO. AND MODULUS ARE :   1 1.000E+04   2 1.000E+04

LOAD GROUP NO. 1 HAS 2 CONTACT AREAS
CONTACT RADIUS (CR)--------------- = 5
CONTACT PRESSURE (CP)------------- = 50
NO. OF POINTS AT WHICH RESULTS ARE DESIRED (NPT)-- = 1
WHEEL SPACING ALONG X-AXIS (XW)------------------- = 0
WHEEL SPACING ALONG Y-AXIS (YW)------------------- = 20

RESPONSE PT. NO. AND (XPT, YPT) ARE: 1   0.000   0.000

PERIOD NO. 1   LOAD GROUP NO. 1

POINT NO.	VERTICAL COORDINATE	VERTICAL DISPL. (HORIZONTAL P. STRAIN)	VERTICAL STRESS (STRAIN)	MAJOR PRINCIPAL STRESS (STRAIN)	MINOR PRINCIPAL STRESS (STRAIN)	INTERMEDIATE PRINCIPAL STRESS (STRAIN)
1	10.00000 (STRAIN)	0.02184 -7.546E-04	14.598 1.311E-03	14.638 1.317E-03	0.828 -7.546E-04	2.111 -5.622E-04

POINT	VERTICAL	NORMAL X STRESS	NORMAL Y STRESS	SHEAR XY STRESS	SHEAR YZ STRESS	SHEAR XZ STRESS

Example2.1

NO.	COORDINATE	(STRAIN)	(STRAIN)	(STRAIN)	(STRAIN)	(STRAIN)
1	10.00000	8.282E-01	2.151E+00	0.000E+00	-7.047E-01	0.000E+00
(STRAIN)		-7.546E-04	-5.562E-04	0.000E+00	-2.114E-04	0.000E+00

Example2.1

Problem No. 1   Period No. 1   Load Group No. 1
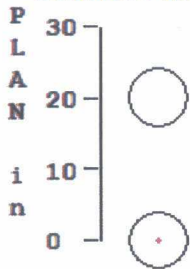
P
L
A
N

i
n

30 —

20 —

10 —

0 —

Contact Radius = 5 in.

Contact Pressure = 50 psi

Dual Spacing = 20 in.

· Response points

D
E
P
T
H

i
n

0

10

E = 10000 psi   PR = 0.5

E = 10000 psi   PR = 0.5

SUBGRADE

0   20   40   60   80   100

DISTANCE IN INCHES
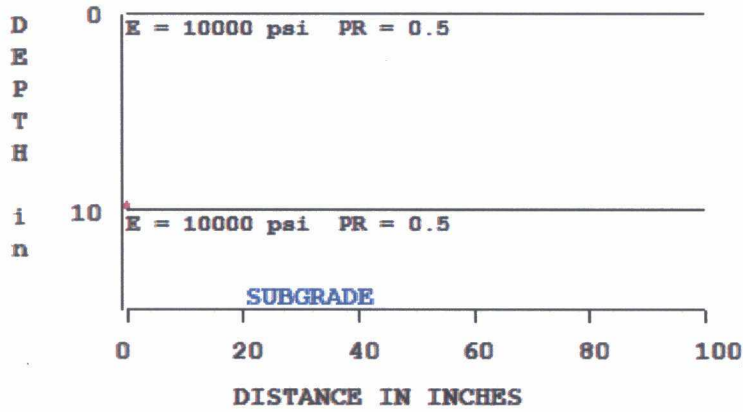
Example2.2

INPUT FILE NAME -C:\Users\USMAN IFTIKHAR\Desktop\kenpav files\Example2.2.DAT

NUMBER OF PROBLEMS TO BE SOLVED = 1

TITLE -Example2.2

MATL = 1 FOR LINEAR ELASTIC LAYERED SYSTEM
NDAMA = 0, SO DAMAGE ANALYSIS WILL NOT BE PERFORMED
NUMBER OF PERIODS PER YEAR (NPY) = 1
NUMBER OF LOAD GROUPS (NLG) = 1
TOLERANCE FOR INTEGRATION (DEL) -- = 0.001
NUMBER OF LAYERS (NL)------------ = 2
NUMBER OF Z COORDINATES (NZ)------ = 1
LIMIT OF INTEGRATION CYCLES (ICL)- = 80
COMPUTING CODE (NSTD)------------ = 9
SYSTEM OF UNITS (NUNIT)------------= 0

Length and displacement in in., stress and modulus in psi
unit weight in pcf, and temperature in F

THICKNESSES OF LAYERS (TH) ARE : 10
POISSON'S RATIOS OF LAYERS (PR) ARE : 0.3 0.3
VERTICAL COORDINATES OF POINTS (ZC) ARE: 10
ALL INTERFACES ARE FULLY BONDED

FOR PERIOD NO. 1 LAYER NO. AND MODULUS ARE :   1 1.000E+04   2 1.000E+04

LOAD GROUP NO. 1 HAS 1 CONTACT AREA
CONTACT RADIUS (CR)--------------- = 5
CONTACT PRESSURE (CP)------------ = 50
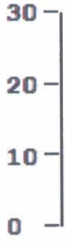RADIAL COORDINATES OF 1 POINT(S) (RC) ARE : 0

PERIOD NO. 1   LOAD GROUP NO. 1

RADIAL COORDINATE	VERTICAL COORDINATE	VERTICAL DISPLACEMENT	VERTICAL STRESS (STRAIN)	RADIAL STRESS (STRAIN)	TANGENTIAL STRESS (STRAIN)	SHEAR STRESS (STRAIN)
0.00000 (STRAIN)	10.00000	0.01760	14.223 1.437E-03	-0.249 -4.441E-04	-0.249 -4.441E-04	0.000 .000E+00

Page 1

Example2.2

Problem No. 1   Period No. 1   Load Group No. 1

P
L
A   30 ─
N   20 ─
i   10 ─
n   0 ─

Contact Radius = 5 in.

Contact Pressure = 50 psi

· Response points
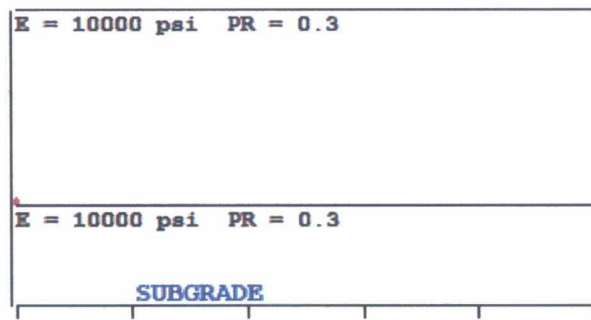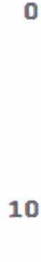
D   0   ┌─ E = 10000 psi   PR = 0.3
E
P
T
H

i   10 ├─ E = 10000 psi   PR = 0.3
n

              SUBGRADE

    0   20   40   60   80   100

         DISTANCE IN INCHES

example2.5

NUMBER OF PROBLEMS TO BE SOLVED = 1

TITLE -Example 2.5

MATL = 1 FOR LINEAR ELASTIC LAYERED SYSTEM
NDAMA = 0, SO DAMAGE ANALYSIS WILL NOT BE PERFORMED
NUMBER OF PERIODS PER YEAR (NPY) = 1
NUMBER OF LOAD GROUPS (NLG) = 1
TOLERANCE FOR INTEGRATION (DEL) -- = 0.001
NUMBER OF LAYERS (NL)------------- = 2
NUMBER OF Z COORDINATES (NZ)------ = 1
LIMIT OF INTEGRATION CYCLES (ICL)- = 80
COMPUTING CODE (NSTD)------------- = 9
SYSTEM OF UNITS (NUNIT)------------= 0

Length and displacement in in., stress and modulus in psi
unit weight in pcf, and temperature in F

THICKNESSES OF LAYERS (TH) ARE : 5.2
POISSON'S RATIOS OF LAYERS (PR) ARE : 0.5 0.5
VERTICAL COORDINATES OF POINTS (ZC) ARE: 5.2
ALL INTERFACES ARE FULLY BONDED

FOR PERIOD NO. 1 LAYER NO. AND MODULUS ARE :   1 5.000E+05   2 5.000E+03

LOAD GROUP NO. 1 HAS 1 CONTACT AREA
CONTACT RADIUS (CR)--------------- = 6
CONTACT PRESSURE (CP)------------- = 80
RADIAL COORDINATES OF 1 POINT(S) (RC) ARE : 0

PERIOD NO. 1   LOAD GROUP NO. 1

RADIAL COORDINATE	VERTICAL COORDINATE	VERTICAL DISPLACEMENT	VERTICAL STRESS (STRAIN)	RADIAL STRESS (STRAIN)	TANGENTIAL STRESS (STRAIN)	SHEAR STRESS (STRAIN)
0.00000 (STRAIN)	5.20000	0.03817	8.226 6.972E-04	-340.395 -3.486E-04	-340.395 -3.486E-04	0.000 .000E+00

Example 2.5

Problem No. 1   Period No. 1   Load Group No. 1

P
L
A
N

i
n

· **Response points**

D
E
P
T
H

i
n

0 ┌─────────────────────────────
  │ E = 500000 psi   PR = 0.5

5.2 ├─────────────────────────────
    │ E = 5000 psi   PR = 0.5

              SUBGRADE

0   20   40   60   80   100

DISTANCE IN INCHES
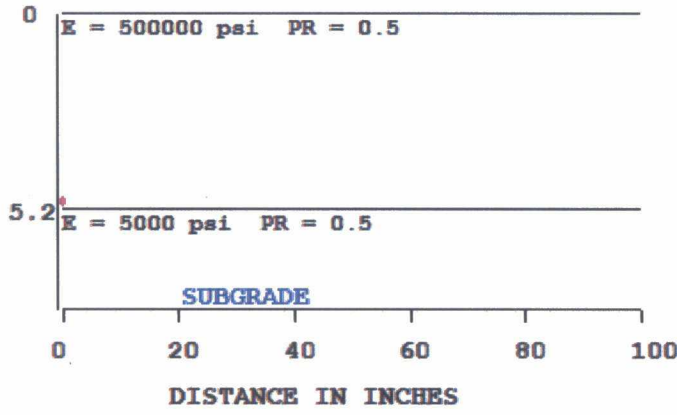
example2.7

INPUT FILE NAME -C:\Users\USMAN IFTIKHAR\Desktop\kenpav files\example2.7.DAT

NUMBER OF PROBLEMS TO BE SOLVED = 1

TITLE -Example2.7

MATL = 1 FOR LINEAR ELASTIC LAYERED SYSTEM
NDAMA = 0, SO DAMAGE ANALYSIS WILL NOT BE PERFORMED
NUMBER OF PERIODS PER YEAR (NPY) = 1
NUMBER OF LOAD GROUPS (NLG) = 1
TOLERANCE FOR INTEGRATION (DEL) -- = 0.001
NUMBER OF LAYERS (NL)------------- = 2
NUMBER OF Z COORDINATES (NZ)------ = 1
LIMIT OF INTEGRATION CYCLES (ICL)- = 80
COMPUTING CODE (NSTD)------------- = 9
SYSTEM OF UNITS (NUNIT)-------------= 0

Length and displacement in in., stress and modulus in psi
unit weight in pcf, and temperature in F

THICKNESSES OF LAYERS (TH) ARE : 6
POISSON'S RATIOS OF LAYERS (PR) ARE : 0.5 0.5
VERTICAL COORDINATES OF POINTS (ZC) ARE: 6
ALL INTERFACES ARE FULLY BONDED

FOR PERIOD NO. 1 LAYER NO. AND MODULUS ARE :   1 1.000E+05   2 1.000E+04

LOAD GROUP NO. 1 HAS 2 CONTACT AREAS
CONTACT RADIUS (CR)--------------- = 4.52
CONTACT PRESSURE (CP)------------- = 70
NO. OF POINTS AT WHICH RESULTS ARE DESIRED (NPT)-- = 1
WHEEL SPACING ALONG X-AXIS (XW)------------------- = 0
WHEEL SPACING ALONG Y-AXIS (YW)------------------- = 13.5

RESPONSE PT. NO. AND (XPT, YPT) ARE: 1   0.000   0.000

PERIOD NO. 1   LOAD GROUP NO. 1

POINT NO.	VERTICAL COORDINATE	VERTICAL DISPL. (HORIZONTAL P. STRAIN)	VERTICAL STRESS (STRAIN)	MAJOR PRINCIPAL STRESS (STRAIN)	MINOR PRINCIPAL STRESS (STRAIN)	INTERMEDIATE PRINCIPAL STRESS (STRAIN)
1	6.00000 (STRAIN)	0.02639 -5.954E-04	15.999 9.828E-04	16.014 9.830E-04	-89.212 -5.954E-04	-75.363 -3.876E-04

POINT NO.	VERTICAL COORDINATE	NORMAL X STRESS (STRAIN)	NORMAL Y STRESS (STRAIN)	SHEAR XY STRESS (STRAIN)	SHEAR YZ STRESS (STRAIN)	SHEAR XZ STRESS (STRAIN)

Page 1

example2.7

```
1        6.00000  -8.921E+01  -7.535E+01   0.000E+00  -1.187E+00   0.000E+00
       (STRAIN)  -5.954E-04  -3.874E-04   0.000E+00  -3.561E-05   0.000E+00
```

Example2.7

Problem No. 1   Period No. 1   Load Group No. 1

P
L
A
N

i
n

PLAN
30 —
20 —
10 —
0 —
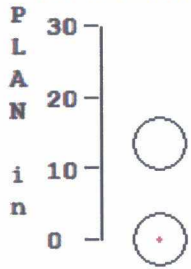
Contact Radius = 4.52 in.

Contact Pressure = 70 psi

Dual Spacing = 13.5 in.

• Response points

D
E
P
T
H

i
n

0
E = 100000 psi   PR = 0.5

6
E = 10000 psi   PR = 0.5

SUBGRADE

0   20   40   60   80   100

DISTANCE IN INCHES
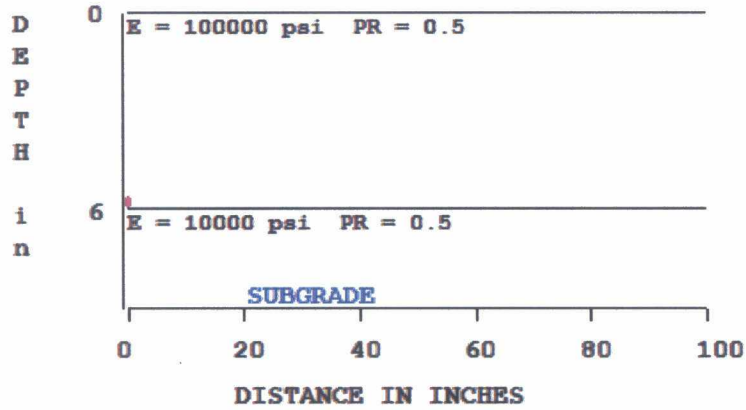
example2.8

INPUT FILE NAME -C:\Users\USMAN IFTIKHAR\Desktop\kenpav files\example2.8.DAT

NUMBER OF PROBLEMS TO BE SOLVED = 1

TITLE -example 2.8

MATL = 1 FOR LINEAR ELASTIC LAYERED SYSTEM
NDAMA = 0, SO DAMAGE ANALYSIS WILL NOT BE PERFORMED
NUMBER OF PERIODS PER YEAR (NPY) = 1
NUMBER OF LOAD GROUPS (NLG) = 1
TOLERANCE FOR INTEGRATION (DEL) -- = 0.001
NUMBER OF LAYERS (NL)------------- = 2
NUMBER OF Z COORDINATES (NZ)------ = 1
LIMIT OF INTEGRATION CYCLES (ICL)- = 80
COMPUTING CODE (NSTD)------------- = 9
SYSTEM OF UNITS (NUNIT)------------= 0

Length and displacement in in., stress and modulus in psi
unit weight in pcf, and temperature in F

THICKNESSES OF LAYERS (TH) ARE : 8
POISSON'S RATIOS OF LAYERS (PR) ARE : 0.5 0.5
VERTICAL COORDINATES OF POINTS (ZC) ARE: 8
ALL INTERFACES ARE FULLY BONDED

FOR PERIOD NO. 1 LAYER NO. AND MODULUS ARE :   1 1.500E+05   2 1.500E+04

LOAD GROUP NO. 1 HAS 1 CONTACT AREA
CONTACT RADIUS (CR)--------------- = 6.5
CONTACT PRESSURE (CP)------------- = 67.7
RADIAL COORDINATES OF 1 POINT(S) (RC) ARE : 0

PERIOD NO. 1   LOAD GROUP NO. 1

RADIAL COORDINATE	VERTICAL COORDINATE	VERTICAL DISPLACEMENT	VERTICAL STRESS (STRAIN)	RADIAL STRESS (STRAIN)	TANGENTIAL STRESS (STRAIN)	SHEAR STRESS (STRAIN)
0.00000 (STRAIN)	8.00000	0.01713	14.740 6.719E-04	-86.047 -3.360E-04	-86.047 -3.360E-04	0.000 .000E+00

example 2.8
Problem No. 1   Period No. 1   Load Group No. 1

P
L   30
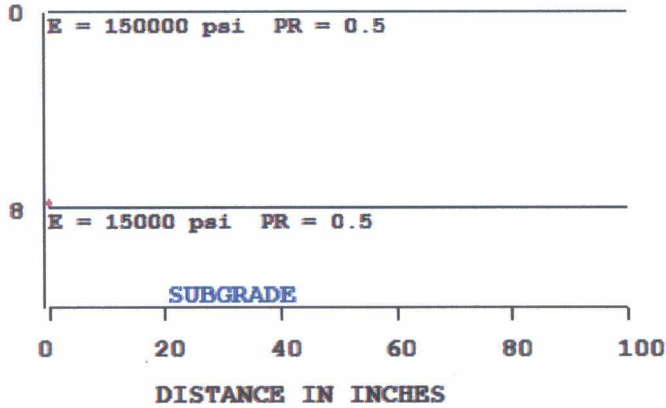A   20
N
i   10
n
     0

Contact Radius = 6.5 in.

Contact Pressure = 67.7 psi

· Response points

D   0   E = 150000 psi   PR = 0.5
E
P
T
H

i   8   E = 15000 psi   PR = 0.5
n

SUBGRADE

0   20   40   60   80   100

DISTANCE IN INCHES

example2.9

NUMBER OF PROBLEMS TO BE SOLVED = 1

TITLE -Example2.9

MATL = 1 FOR LINEAR ELASTIC LAYERED SYSTEM
NDAMA = 0, SO DAMAGE ANALYSIS WILL NOT BE PERFORMED
NUMBER OF PERIODS PER YEAR (NPY) = 1
NUMBER OF LOAD GROUPS (NLG) = 1
TOLERANCE FOR INTEGRATION (DEL) -- = 0.001
NUMBER OF LAYERS (NL)------------ = 2
NUMBER OF Z COORDINATES (NZ)------ = 1
LIMIT OF INTEGRATION CYCLES (ICL)- = 80
COMPUTING CODE (NSTD)------------ = 9
SYSTEM OF UNITS (NUNIT)------------= 0

Length and displacement in in., stress and modulus in psi
unit weight in pcf, and temperature in F

THICKNESSES OF LAYERS (TH) ARE : 8
POISSON'S RATIOS OF LAYERS (PR) ARE : 0.5 0.5
VERTICAL COORDINATES OF POINTS (ZC) ARE: 8
ALL INTERFACES ARE FULLY BONDED

FOR PERIOD NO. 1 LAYER NO. AND MODULUS ARE :   1 1.500E+05   2 1.500E+04

LOAD GROUP NO. 1 HAS 2 CONTACT AREAS
CONTACT RADIUS (CR)--------------- = 4.6
CONTACT PRESSURE (CP)------------- = 67.7
NO. OF POINTS AT WHICH RESULTS ARE DESIRED (NPT)-- = 3
WHEEL SPACING ALONG X-AXIS (XW)------------------- = 0
WHEEL SPACING ALONG Y-AXIS (YW)------------------- = 11.5

RESPONSE PT. NO. AND (XPT, YPT) ARE: 1 0.000   0.000 2 0.000   5.750
  3 0.000 11.500

PERIOD NO. 1   LOAD GROUP NO. 1

POINT NO.	VERTICAL COORDINATE	VERTICAL DISPL. (HORIZONTAL P. STRAIN)	VERTICAL STRESS (STRAIN)	MAJOR PRINCIPAL STRESS (STRAIN)	MINOR PRINCIPAL STRESS (STRAIN)	INTERMEDIATE PRINCIPAL STRESS (STRAIN)
1	8.00000	0.01513	11.481	11.504	-67.761	-56.920
	(STRAIN)	-3.004E-04	4.921E-04	4.923E-04	-3.004E-04	-1.919E-04
2	8.00000	0.01584	11.759	11.759	-68.068	-51.659
	(STRAIN)	-3.208E-04	4.775E-04	4.775E-04	-3.208E-04	-1.567E-04

Page 1

example2.9

3	8.00000	0.01513	11.481	11.504	-67.761	-56.920
	(STRAIN)	-3.004E-04	4.921E-04	4.923E-04	-3.004E-04	-1.919E-04

POINT NO.	VERTICAL COORDINATE	NORMAL X STRESS (STRAIN)	NORMAL Y STRESS (STRAIN)	SHEAR XY STRESS (STRAIN)	SHEAR YZ STRESS (STRAIN)	SHEAR XZ STRESS (STRAIN)
1	8.00000	-6.776E+01	-5.690E+01	0.000E+00	-1.250E+00	0.000E+00
	(STRAIN)	-3.004E-04	-1.917E-04	0.000E+00	-2.500E-05	0.000E+00
2	8.00000	-6.807E+01	-5.166E+01	0.000E+00	0.000E+00	0.000E+00
	(STRAIN)	-3.208E-04	-1.567E-04	0.000E+00	0.000E+00	0.000E+00
3	8.00000	-6.776E+01	-5.690E+01	0.000E+00	1.250E+00	0.000E+00
	(STRAIN)	-3.004E-04	-1.917E-04	0.000E+00	2.500E-05	0.000E+00

Example2.9

Problem No. 1   Period No. 1   Load Group No. 1

```
P    30
L
A    20
N
i    10
n
     0
```

(circle with response point)
(response point)
(circle with response point)
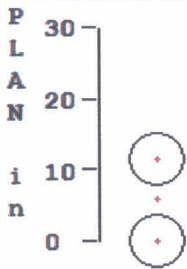
Contact Radius = 4.6 in.

Contact Pressure = 67.7 psi

Dual Spacing = 11.5 in.

· Response points

```
     0
D    0    | E = 150000 psi   PR = 0.5
E
P
T
H
i    8    | E = 15000 psi   PR = 0.5
n
```

SUBGRADE

```
0     20     40     60     80     100
```

DISTANCE IN INCHES
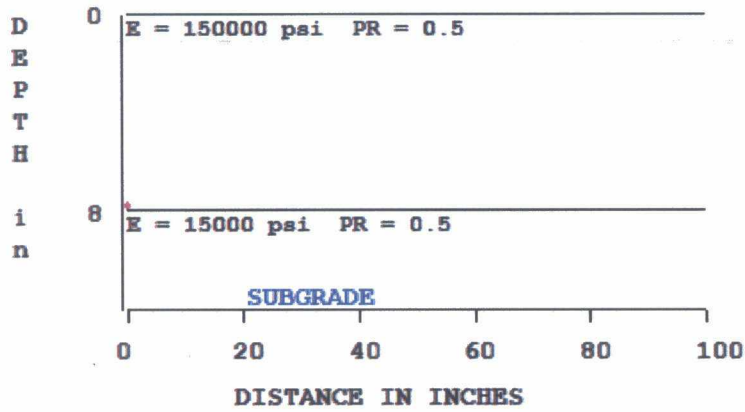
example2.10

INPUT FILE NAME -C:\Users\USMAN IFTIKHAR\Desktop\kenpav files\example2.10.DAT

NUMBER OF PROBLEMS TO BE SOLVED = 1

TITLE -Example2.10

MATL = 1 FOR LINEAR ELASTIC LAYERED SYSTEM
NDAMA = 0, SO DAMAGE ANALYSIS WILL NOT BE PERFORMED
NUMBER OF PERIODS PER YEAR (NPY) = 1
NUMBER OF LOAD GROUPS (NLG) = 1
TOLERANCE FOR INTEGRATION (DEL) -- = 0.001
NUMBER OF LAYERS (NL)------------ = 2
NUMBER OF Z COORDINATES (NZ)------ = 1
LIMIT OF INTEGRATION CYCLES (ICL)- = 80
COMPUTING CODE (NSTD)------------ = 9
SYSTEM OF UNITS (NUNIT)------------= 0

Length and displacement in in., stress and modulus in psi
unit weight in pcf, and temperature in F

THICKNESSES OF LAYERS (TH) ARE : 8
POISSON'S RATIOS OF LAYERS (PR) ARE : 0.5 0.5
VERTICAL COORDINATES OF POINTS (ZC) ARE: 8
ALL INTERFACES ARE FULLY BONDED

FOR PERIOD NO. 1 LAYER NO. AND MODULUS ARE :   1 1.500E+05   2 1.500E+04

LOAD GROUP NO. 1 HAS 4 CONTACT AREAS
CONTACT RADIUS (CR)--------------- = 4.6
CONTACT PRESSURE (CP)------------- = 67.7
NO. OF POINTS AT WHICH RESULTS ARE DESIRED (NPT)-- = 1
WHEEL SPACING ALONG X-AXIS (XW)------------------- = 49
WHEEL SPACING ALONG Y-AXIS (YW)------------------- = 11.5

RESPONSE PT. NO. AND (XPT, YPT) ARE: 1   0.000   5.750

PERIOD NO. 1   LOAD GROUP NO. 1

POINT NO.	VERTICAL COORDINATE	VERTICAL DISPL. (HORIZONTAL P. STRAIN)	VERTICAL STRESS (STRAIN)	MAJOR PRINCIPAL STRESS (STRAIN)	MINOR PRINCIPAL STRESS (STRAIN)	INTERMEDIATE PRINCIPAL STRESS (STRAIN)
1	8.00000	0.01886	11.749	11.749	-65.673	-51.480
	(STRAIN)	-3.054E-04	4.688E-04	4.688E-04	-3.054E-04	-1.635E-04

POINT NO.	VERTICAL COORDINATE	NORMAL X STRESS (STRAIN)	NORMAL Y STRESS (STRAIN)	SHEAR XY STRESS (STRAIN)	SHEAR YZ STRESS (STRAIN)	SHEAR XZ STRESS (STRAIN)

Page 1

example2.10

```
1        8.00000  -6.567E+01  -5.148E+01   1.752E-09  -1.128E-10  -3.768E-02
        (STRAIN)  -3.054E-04  -1.635E-04   3.503E-14  -2.256E-15  -7.536E-07
```
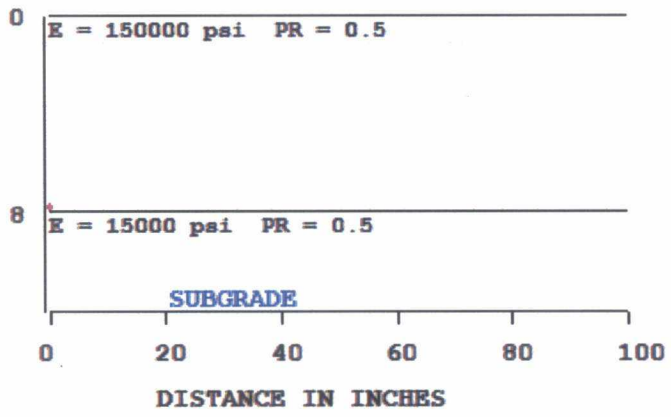
Example2.10
Problem No. 1 Period No. 1 Load Group No. 1

P
L   30
A   20
N
i   10
n   0

Contact Radius = 4.6 in.
Contact Pressure = 67.7 psi
Dual Spacing = 11.5 in.
Tandem Spacing = 49 in.
· Response points

D   0   E = 150000 psi   PR = 0.5
E
P
T
H

i   8   E = 15000 psi   PR = 0.5
n

SUBGRADE

0   20   40   60   80   100

DISTANCE IN INCHES

example2.11

INPUT FILE NAME -C:\Users\USMAN IFTIKHAR\Desktop\kenpav files\example2.11.DAT

NUMBER OF PROBLEMS TO BE SOLVED = 1

TITLE -example2.11

MATL = 1 FOR LINEAR ELASTIC LAYERED SYSTEM
NDAMA = 0, SO DAMAGE ANALYSIS WILL NOT BE PERFORMED
NUMBER OF PERIODS PER YEAR (NPY) = 1
NUMBER OF LOAD GROUPS (NLG) = 1
TOLERANCE FOR INTEGRATION (DEL) -- = 0.001
NUMBER OF LAYERS (NL)------------ = 3
NUMBER OF Z COORDINATES (NZ)------ = 2
LIMIT OF INTEGRATION CYCLES (ICL)- = 80
COMPUTING CODE (NSTD)------------ = 9
SYSTEM OF UNITS (NUNIT)------------= 0

Length and displacement in in., stress and modulus in psi
unit weight in pcf, and temperature in F

THICKNESSES OF LAYERS (TH) ARE : 6 6
POISSON'S RATIOS OF LAYERS (PR) ARE : 0.5 0.5 0.5
VERTICAL COORDINATES OF POINTS (ZC) ARE: 6 12
ALL INTERFACES ARE FULLY BONDED

FOR PERIOD NO. 1 LAYER NO. AND MODULUS ARE :   1 4.000E+05   2 2.000E+04
   3 1.000E+04

LOAD GROUP NO. 1 HAS 1 CONTACT AREA
CONTACT RADIUS (CR)--------------- = 4.8
CONTACT PRESSURE (CP)------------- = 120
RADIAL COORDINATES OF 1 POINT(S) (RC) ARE : 0

PERIOD NO. 1   LOAD GROUP NO. 1

RADIAL COORDINATE	VERTICAL COORDINATE	VERTICAL DISPLACEMENT	VERTICAL STRESS (STRAIN)	RADIAL STRESS (STRAIN)	TANGENTIAL STRESS (STRAIN)	SHEAR STRESS (STRAIN)
0.00000	6.00000	0.02079	14.607	-222.300	-222.300	0.000
(STRAIN)			5.923E-04	-2.961E-04	-2.961E-04	.000E+00
0.00000	12.00000	0.01758	7.126	-3.996	-3.996	0.000
(STRAIN)			5.561E-04	-2.780E-04	-2.780E-04	.000E+00

example2.11

Problem No. 1   Period No. 1   Load Group No. 1

P
L
A
N

i
n

30 —

20 —

10 —

0 —

Contact Radius = 4.8 in.

Contact Pressure = 120 psi

· Response points

D   0
E
P
T   6
H

i   12
n

E = 400000 psi   PR = 0.5

E = 20000 psi   PR = 0.5

E = 10000 psi   PR = 0.5

SUBGRADE

0   20   40   60   80   100

DISTANCE IN INCHES

Example2.1.1

INPUT FILE NAME -C:\Users\USMAN IFTIKHAR\Desktop\kenpav files\Example2.1.1.DAT

NUMBER OF PROBLEMS TO BE SOLVED = 1

TITLE -Example2.1

MATL = 1 FOR LINEAR ELASTIC LAYERED SYSTEM
NDAMA = 0, SO DAMAGE ANALYSIS WILL NOT BE PERFORMED
NUMBER OF PERIODS PER YEAR (NPY) = 1
NUMBER OF LOAD GROUPS (NLG) = 1
TOLERANCE FOR INTEGRATION (DEL) -- = 0.001
NUMBER OF LAYERS (NL)------------- = 2
NUMBER OF Z COORDINATES (NZ)------ = 1
LIMIT OF INTEGRATION CYCLES (ICL)- = 80
COMPUTING CODE (NSTD)------------- = 9
SYSTEM OF UNITS (NUNIT)------------= 0

Length and displacement in in., stress and modulus in psi
unit weight in pcf, and temperature in F

THICKNESSES OF LAYERS (TH) ARE : 10
POISSON'S RATIOS OF LAYERS (PR) ARE : 0.5 0.5
VERTICAL COORDINATES OF POINTS (ZC) ARE: 10
ALL INTERFACES ARE FULLY BONDED

FOR PERIOD NO. 1 LAYER NO. AND MODULUS ARE :   1 1.000E+04   2 1.000E+04

LOAD GROUP NO. 1 HAS 2 CONTACT AREAS
CONTACT RADIUS (CR)--------------- = 5
CONTACT PRESSURE (CP)------------- = 50
NO. OF POINTS AT WHICH RESULTS ARE DESIRED (NPT)-- = 1
WHEEL SPACING ALONG X-AXIS (XW)------------------- = 0
WHEEL SPACING ALONG Y-AXIS (YW)------------------- = 20

RESPONSE PT. NO. AND (XPT, YPT) ARE: 1 20.000 10.000

PERIOD NO. 1   LOAD GROUP NO. 1

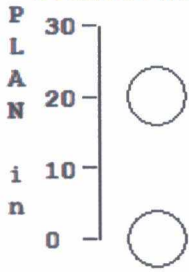| POINT NO.	VERTICAL COORDINATE	VERTICAL DISPL. (HORIZONTAL P. STRAIN)	VERTICAL STRESS (STRAIN)	MAJOR PRINCIPAL STRESS (STRAIN)	MINOR PRINCIPAL STRESS (STRAIN)	INTERMEDIATE PRINCIPAL STRESS (STRAIN)
1	10.00000	0.00899 (STRAIN) -6.443E-05	0.470 -6.145E-05	2.183 1.955E-04	0.006 -1.311E-04	0.450 -6.443E-05

POINT NO.	VERTICAL COORDINATE	NORMAL X STRESS (STRAIN)	NORMAL Y STRESS (STRAIN)	SHEAR XY STRESS (STRAIN)	SHEAR YZ STRESS (STRAIN)	SHEAR XZ STRESS (STRAIN)

Example2.1.1

```
1       10.00000    1.719E+00    4.504E-01   -7.381E-09    6.743E-09    8.917E-01
        (STRAIN)    1.259E-04   -6.443E-05   -2.214E-12    2.023E-12    2.675E-04
```

Example2.1

Problem No. 1   Period No. 1   Load Group No. 1

P
L
A
N

i
n

```
30 ─┐
    │    ◯
20 ─┤
    │
10 ─┤         ·
    │
 0 ─┘    ◯
```

Contact Radius = 5 in.

Contact Pressure = 50 psi

Dual Spacing = 20 in.

· **Response points**

D
E
P
T
H

i
n

```
 0 ┌────────────────────────────────────┐
   │ E = 10000 psi   PR = 0.5            │
   │                                     │
   │                                     │
   │                                     │
   │                                     │
10 │ E = 10000 psi   PR = 0.5            │
   │                                     │
   │          SUBGRADE                   │
   └────────────────────────────────────┘
   0    20    40    60    80    100
```

DISTANCE IN INCHES