1.1 Konsole (eben)

Utility Menu>   **File>**   **Change Jobname**

default: file   new: example 1
choose: OK

Utility Menu>   **File>**   **Change Title**
write: plane structure
choose: OK

Main Menu>   **Preprocessor> Element Typ> Add/Edit/Delete**

choose: Add → Structural Solid → Quad 4node 42
close with: OK
choose in window „Element Types": Options
choose under Element behavior -K3 Plane stress
change it in - Plane strain
close with: OK (PLANE42 element typ options)
close with: Close (Element Types)

Main Menu>   **Preprocessor> Real Constants > Add**

choose OK → for PLANE42 not nessecary
close with: Close (Notes)
close with: Close (Real Constants)

Main Menu>   **Preprocessor> Material Props> Material Models - Structural - Linear - Elastic - Isotropic**

choose OK → new window „Isotropic Material Properties"
write in field „Young's modulus EX": 200e9
write in field „PRXY": 0.3
close with: OK
close window: „Define Material Model Behavior"

Main Menu>   **Preprocessor> Modeling - Create> Areas - Rectangel> By Dimensions**

write inX1l: 0   inX2: 1
          inY1: G   inY2: 1
close with: OK

Utility Menu>   **PlotCtrls>**   **Pan, Zoom, Rotate**

click four times on the field with the little point
click the arrow-button to shift the rectangle left/top

Main Menu>   **Preprocessor> Create>**   **Areas - Circle> Solid Circle**

write in WPX: 1 in WPY: -1
       in Radius: 1.8
dose with: OK

Main Menu>   **Preprocessor> Operate> Booleans>**   **Substract> Areas**

read in the Input-window
pick the rectangel from which is to substract
choose: OK
read in the Input-window
pick the circle to be substracted
choose: OK
choose in the window „Pan Zoom Rotate": Fit

Choose in the Toolbar: SAVE DB !!!

Main Menu>   **Preprocessor> Meshing> Mesh Tool**

choose for Lines: Set
in picking menu: pick all
in next dialog-box for NDIV: 10
choose: OK
choose for Mesh: Area
pick at: MESH
in picking menu: pick all
close the Mesh-Tool-window

Main Menu>   **Solution> Define Loads-Apply> Structural> Displacements> On Nodes**

window „Apply U,ROT on nodes" will be opened
pick in the Graphic-Window all nodes on the left side of our model
                    (left mouse-button: pick, right mouse-button: unpick)
choose: OK
choose in the opened window "Apply U, ROT": ALL DOF (Value: 0)
choose: OK

If there is a mistake in the boundary-conditions, you should choose:
Main Menu>   Solution>   Define Loads>   Delete> All Load Data> All F.E. Loads
and beginn this part new.

Main Menu>   **Solution> Define Loads-Apply> Structural> Pressure> On Nodes**

window „Apply PRES on nodes" will be opened
pick in the (Graphic-Window all nodes on the top of our model
choose: OK
write in the opened window „Apply PRES on Nodes" for
"VALUE Load PRES Value": 1000
choose: OK

Utility Menu>   **PlotCtrls>**   **Symbols**

choose for:
[/PBC] ...   Applied B.C.'s
[/PSF] ...   Pressures
          Show pres and convect as … Arrows
choose: OK

Choose in the Toolbar: SAVE DB !!!

Main Menu>   **Solution> - Solve - Current LS**

choose: OK
„Solution is done"→ close
close the window „/STAT Command" (top/right: x)

Main Menu>   **General Postproc > Plot Results>**   **Deformed Shape**

choose: Def+ undef edge
choose: OK

Main Menu>   **General Postproc > Plot Results > Nodal Solu**

choose in the opened window „Contur Nodal Solution Data":
Stress and von Mises SEQV
choose: OK

Main Menu>   **General Postproc > Plot Results> Contour Plot > Nodal Solu**

choose in the opened window „Contur Nodal Solution Data":
Stress and X-direction SX
choose: OK

Main Menu>   **General Postproc>**   **Path Operations > Define Path By Nodes**

pick the point at the top/left and the other at the bottom/left of our model
choose: OK
write for path name: path1
OK

Main Menu>   **General Postproc>**   **Path Operations > Map onto Path**

write in the opened window for Lab: Stress sx
choose in the opened window: Stress and X-Direction SX
choose: OK

Main Menu>   **General Postproc>**   **Path Operations > Plot Path Items on Graph**

choose in the opened window: SX
choose: OK