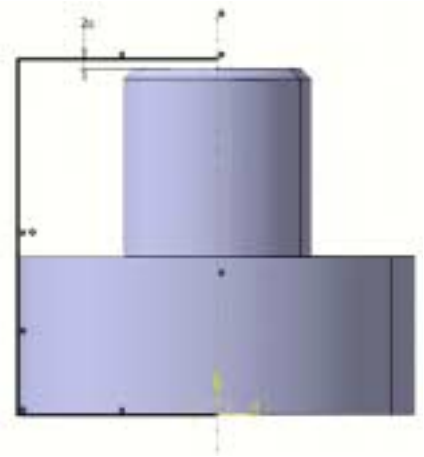
TP1-Turning

Bracket: button

Objectives: generate an iso NC program from a simple part of revolution

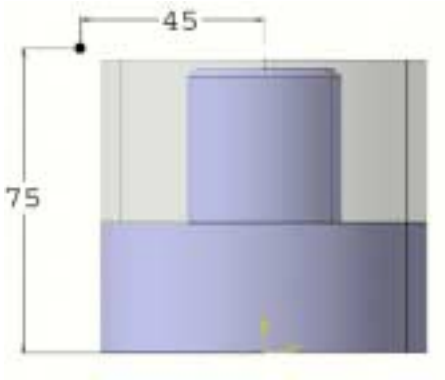
procedure :

- open file: button



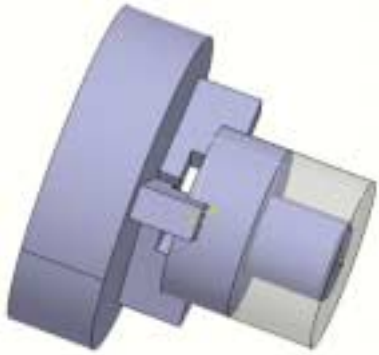
Creation of the raw part and the machining profilesblank

- create a new part body by clicking on Insert>part bodypiece- rename the "stock and contour" part body (property >property-element tees)- open a sketch in the YZ plane- build the rough contour as in the figure (with aextra thickness at the end of 2mm)- make a part of revolution from this sketch.- set the transparency properties of the raw part (set to 200)- make the sketch visible.



Relief point- open a sketch in the YZ plane- construct a point as in the figure as in the figure- make the sketch visible.

Creating the chuck-part assembly



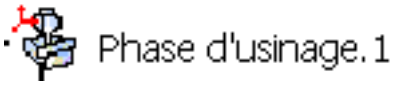
- open a new assembly- rename it "button_ph30"- insert the chuck- insert button- constrain it as in the figure- make a backup of the assembly

Creation of the machining phase

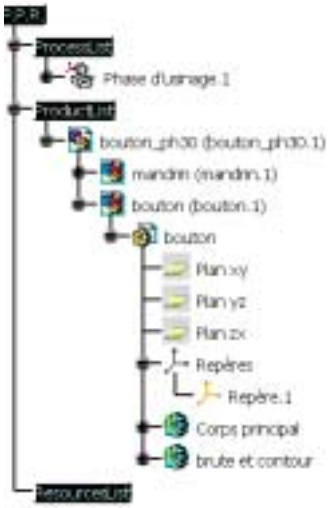
- open the workshop by clicking on 

or Start>NC Manufacturing> Lathe Machining

Declaration of the geometries used for the simulation

double click 

in the tree.



workpiece geometry

click on  , the dialog box disappears

click in the tree on: Main body of the button

double click outside to validate the selection

blank geometry

click on  , the dialog box disappears

click in the tree on: the “raw and outline” body of the button

double click outside to validate the selection

machining fixture geometry

click on  , the dialog box disappears

click in the tree on: the chuck

double click outside to validate the selection

machining mark

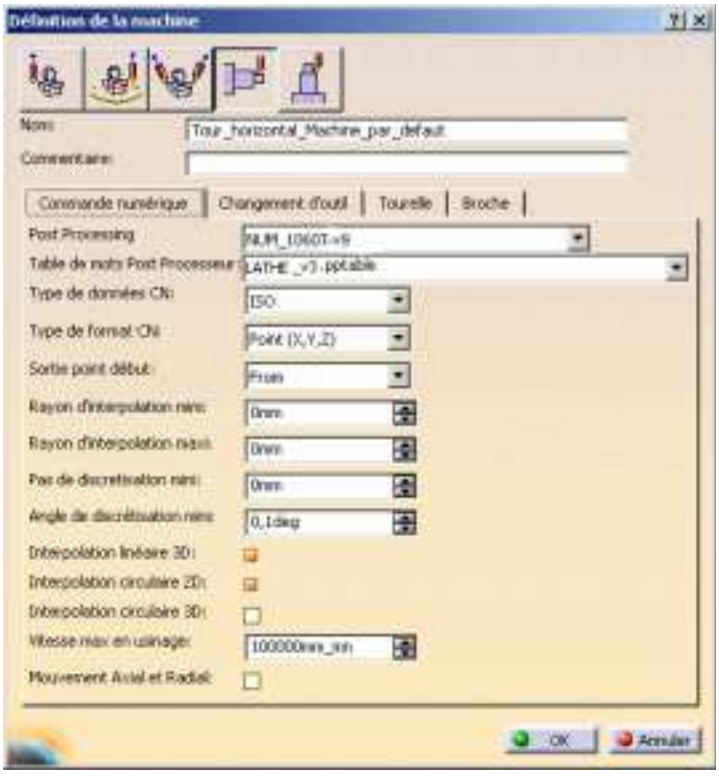
click on the icon 

click on one of the red areas to declare the markerclick on the markvalidate by clicking on OK

choice of machine

click on the icon 

adjust the parameters corresponding to the menu below against



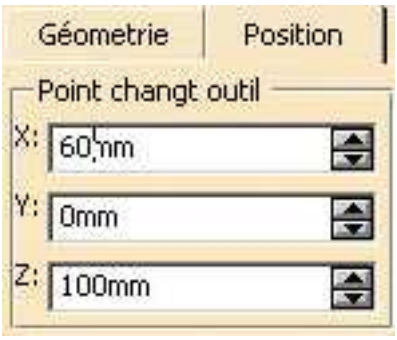
Catalog of tools:

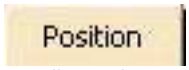
- click on the tab 

- choose the catalog: toolstowers

validate by clicking on OK

tool change position



click on the tab 

adjust the parameters corresponding to the menu opposite

confirm by clicking on OK to close the machining phase window

- make a backup under the name "bouton_ph30"

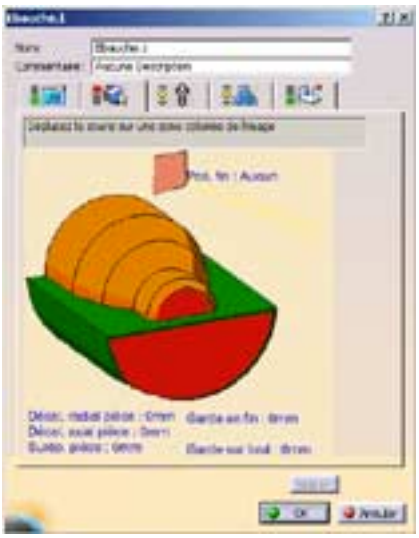
Creation of operations

Ebauche

Click Insert>Machining Operations>Rough Turning 

then click on manufacturing program.1 in the tree.

the following menu appears



Choice of tool

click on 

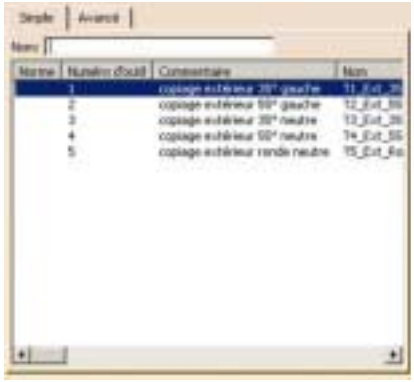
- set tool number to 2

Choice of tool body

click on 

- click on  to choose the tool body from the catalog

"lathe tools"- choose tool
T2_Ext_55°_G- click
OKChoice of insert



- click on 

- click on  to choose the insert from the "touring tools" catalog

- click on 

- choose the 55° insert

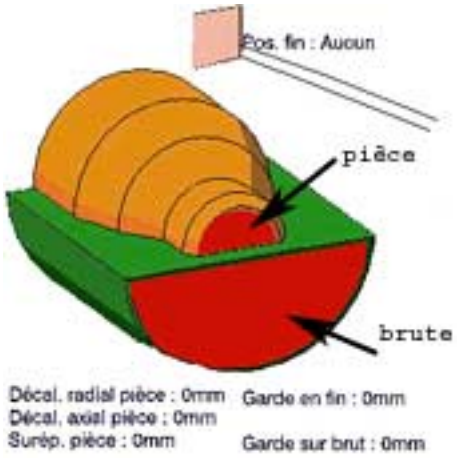
- click OK

Declaration of contour geometries

- click on 

the following menu appearsOutline of the blank

- click on the red area marked "gross"- click on one end of the raw contour- click OK



Part outline- click on the red area marked "room"- click on one end of the part outline- click OK

- adjust the part oversize: 0.5 mm

Machining strategy

- click on 

the following menu appears- set roughing mode to parallel contour- set the axial cutting depth to: 0.5 mm- set the radial cutting depth to: 2 mm

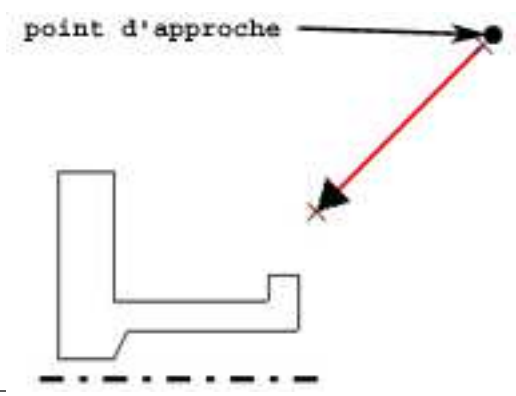
Approach and withdrawal of tools

click on 

- check the approach box

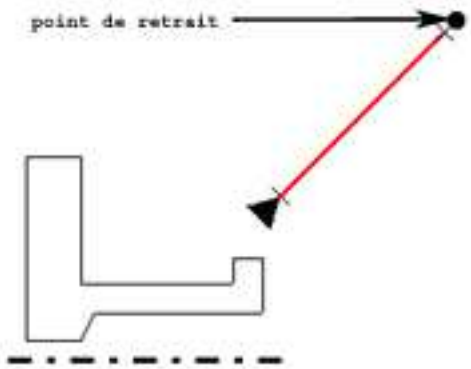
- click on 

the following menu appears- click on the point identified by the arrowthe window disappears- click on the sketched point in the “raw and outline” bodythe window reappears- check the withdrawal box



- click on 

the following menu appears- click on the point identified by the arrowthe window disappears- click on the sketched point in the “raw and outline” bodythe window reappears



cutting condition

- click on 

the following menu appears

- complete the speed as on the table

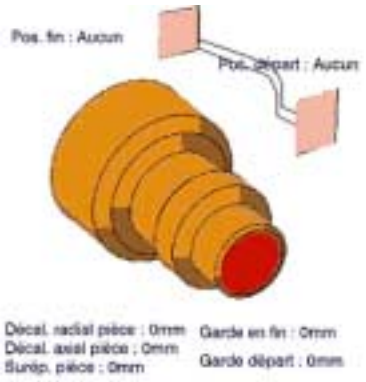
Simulation

- click on 

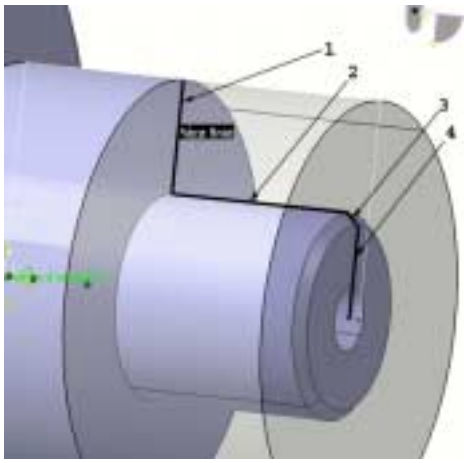
- follow the procedure described in the milling tutorials- click OK to exit the simulation- click on OK to validate the simulation

profile finish

- Click on Insert>Turning Operations>Profile Finish 



- click on the red area- click on the marked entities of 1,2 and 4 (be careful not to clickon one end of the segments)- click OK



cutting condition

- click on 

the following menu appears

- complete the speed as on the table

Machining strategy

- click on 

the following menu appears

- complete the parameters as opposite

Approach and withdrawal of tools

Same as for the draft

Simulation

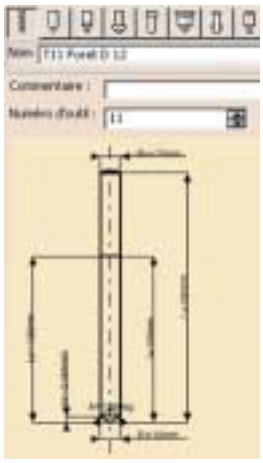
- click on 

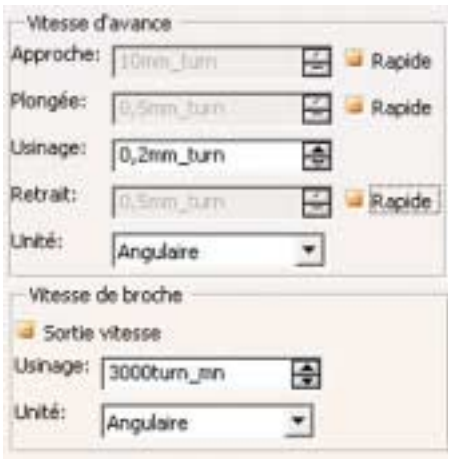
- follow the procedure described in the milling tutorials- click OK to exit the simulation- click on OK to validate the simulation

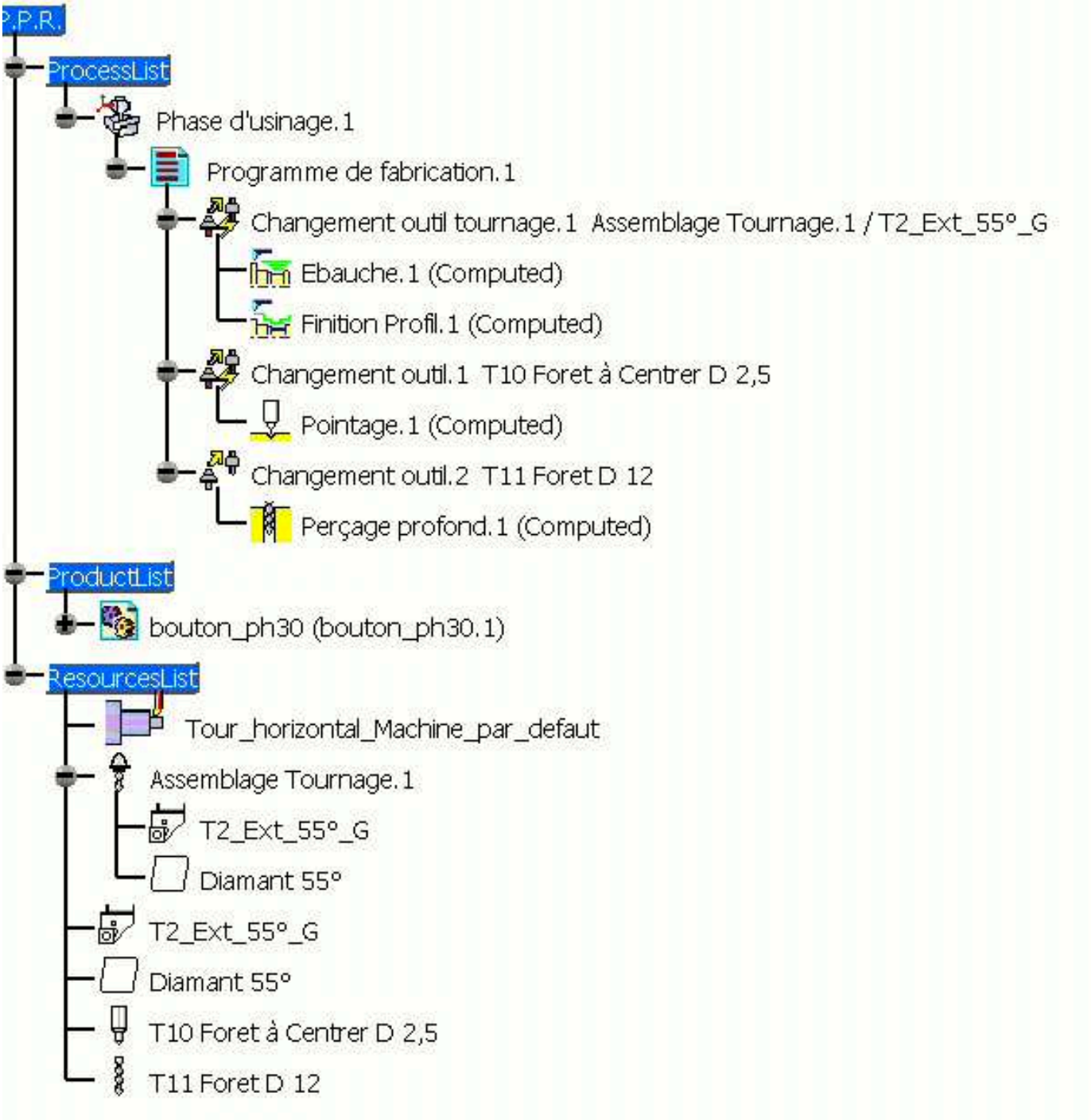
Create punch and drill operations

same procedure as in the milling tutorials

choice of tools







NC code generationsame procedure as for the milling tutorialsChoose the workstation:Establish Part Process: Cap 2