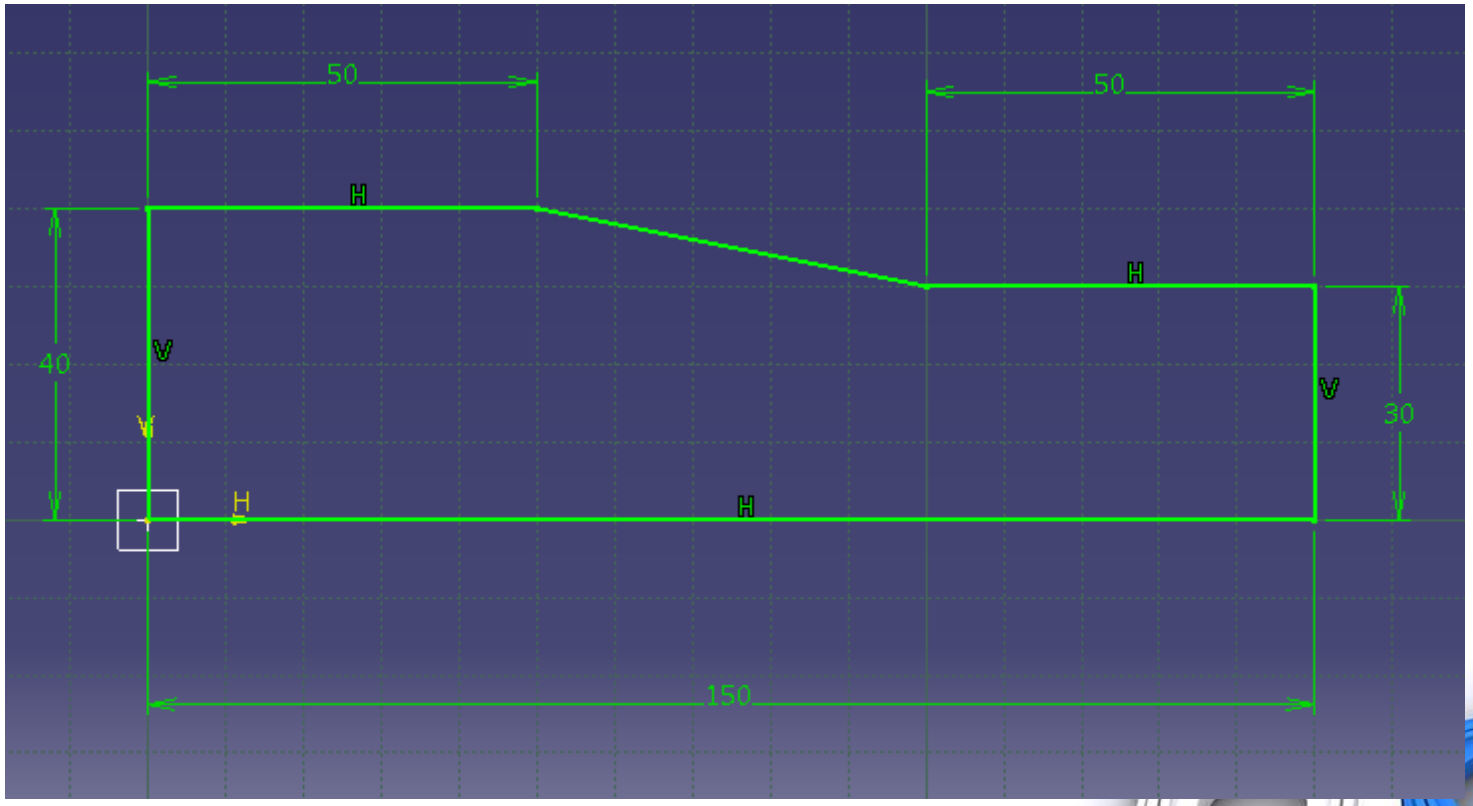
Catia

-Alın Tornalama-

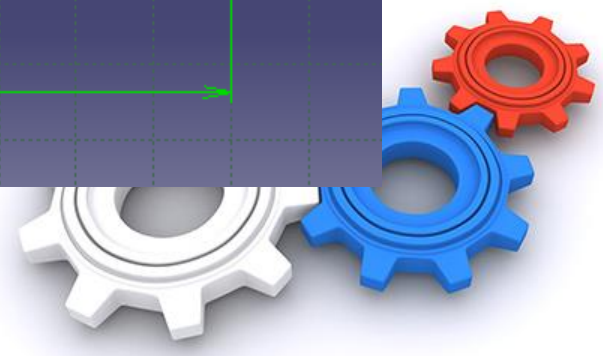
Ahmet SAN

1- Parça Çizimi

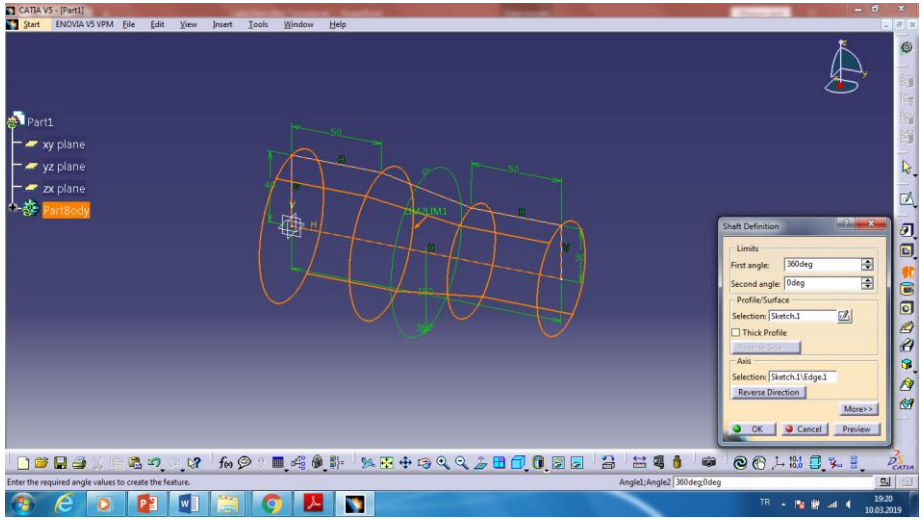
a) Skech araçları kullanılarak aşağıda ölçüleri verilen parça YZ Düzlemine (Karşı Düzleme) çizilir



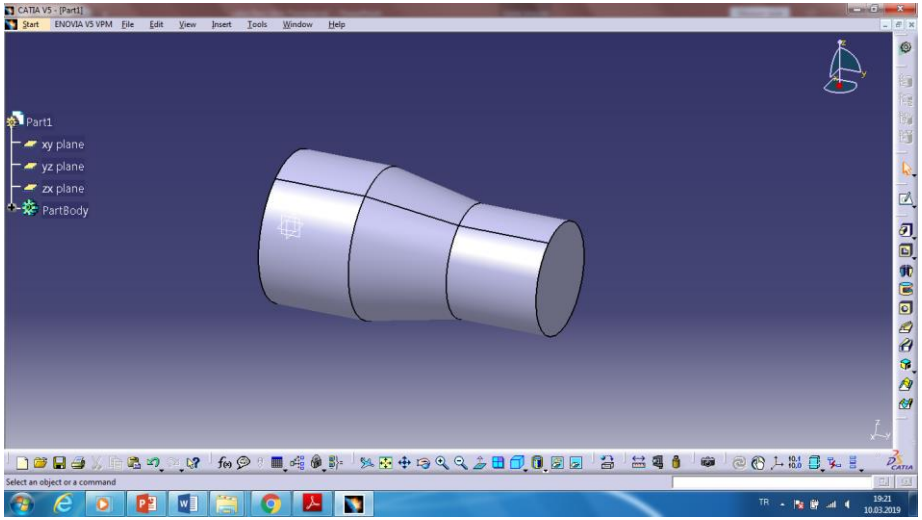
Parça Ölçüleri



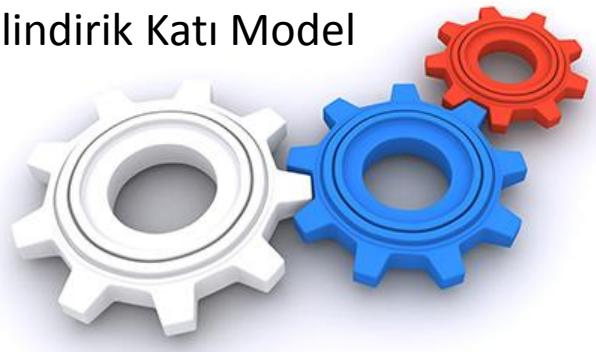
b) Shaft (Döndürme) Yöntemi ile silindirik katı model haline getirilir



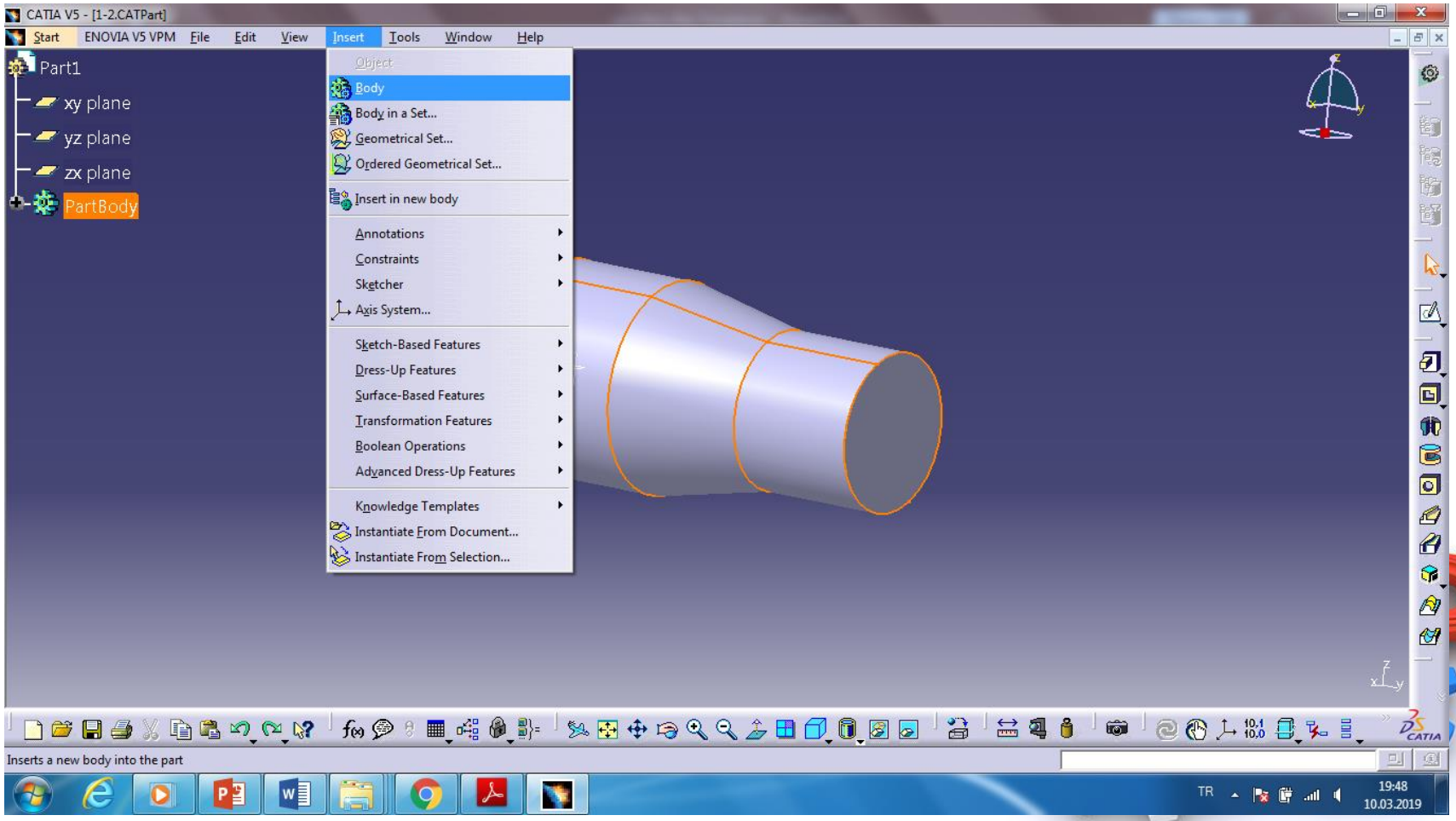
Shaft komutu Uygulanmış hali



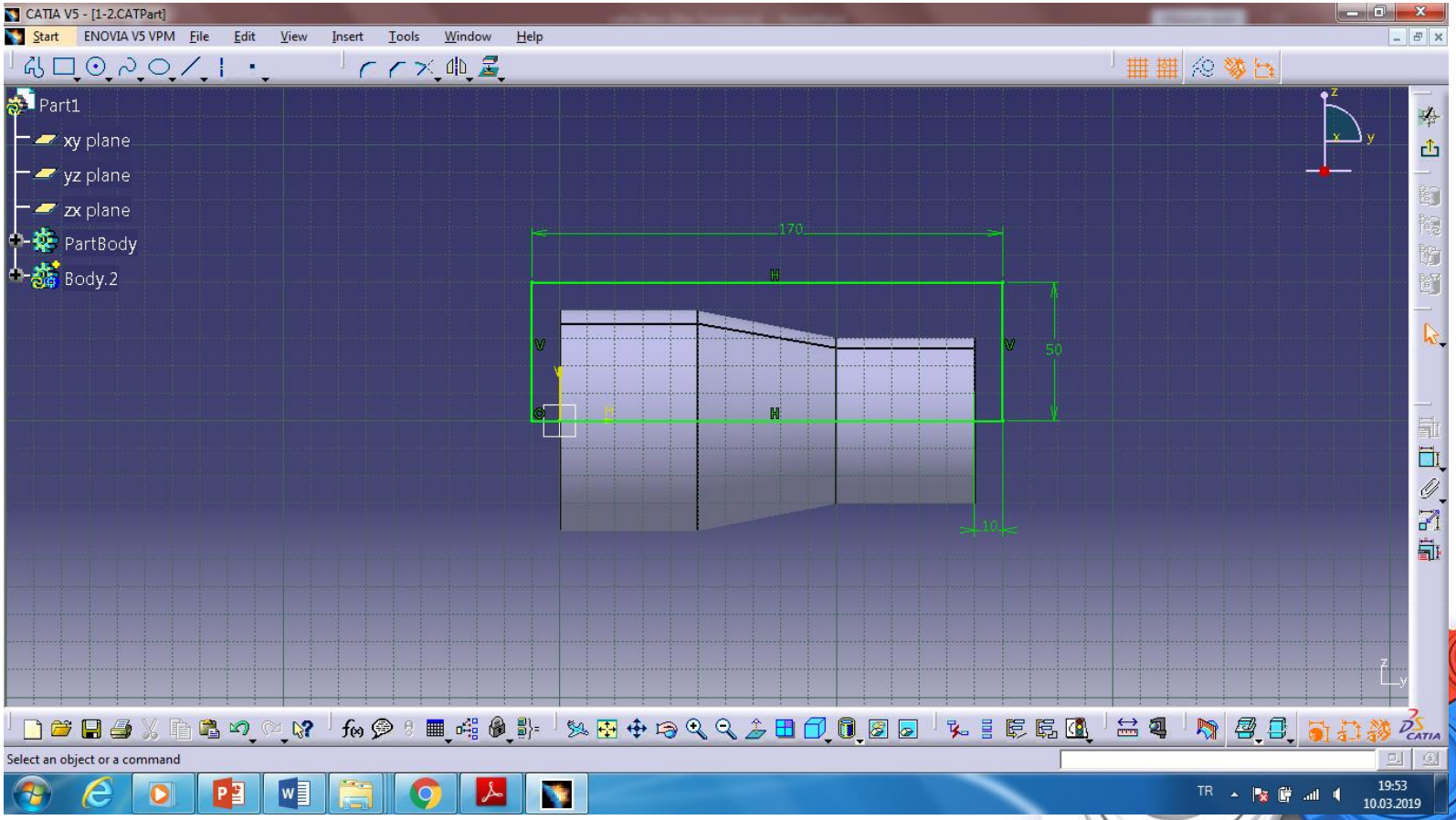
Silindirik Katı Model



c) Insert/Body kullanılarak unsur ağacına yeni bir body eklenir

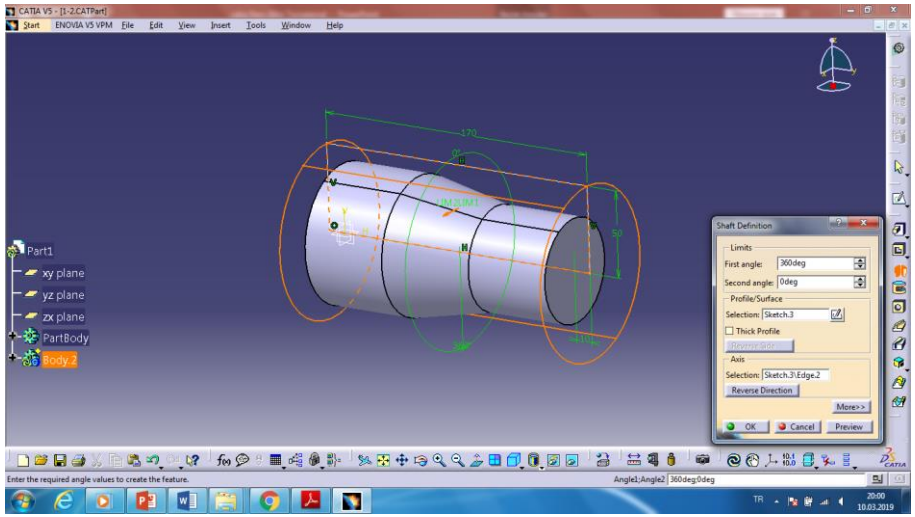


d) Unsur ağacı üzerinden yeni eklenen body2 seçilir ve kütük (Stock) hali Eklenir (yz Plane seçlerek yeni skech açılır ve bu plane üzerine Ø 100 x 170 Kütük çizilir)

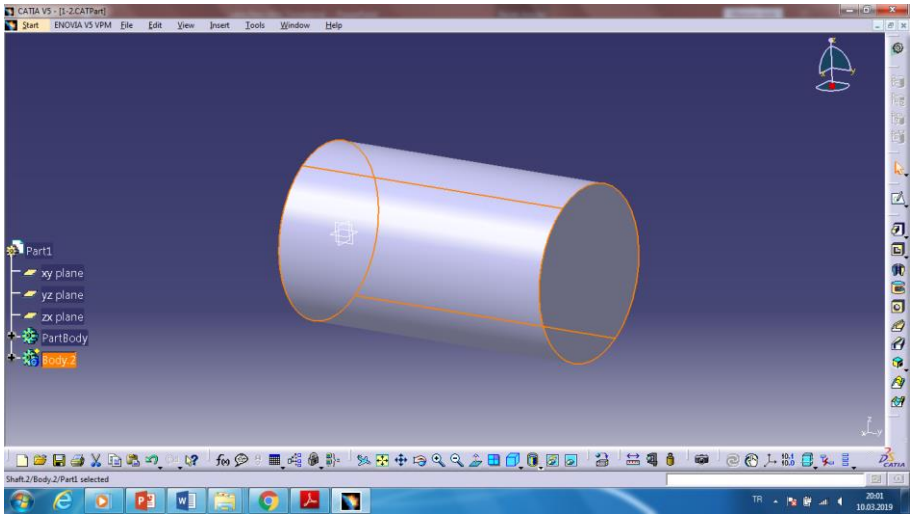


Skech düzleminde kütün çizilmiş hali

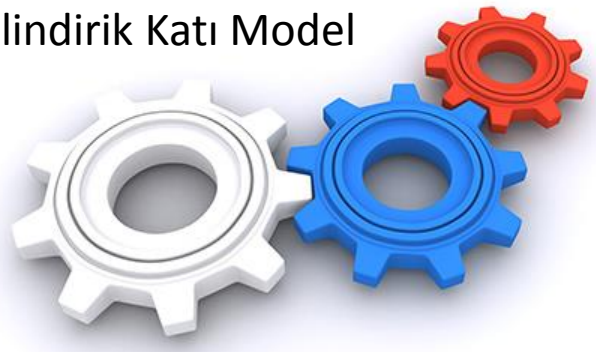
e)Shaft (Döndürme) Yöntemi ile kütük de silindirik katı model haline getirilir



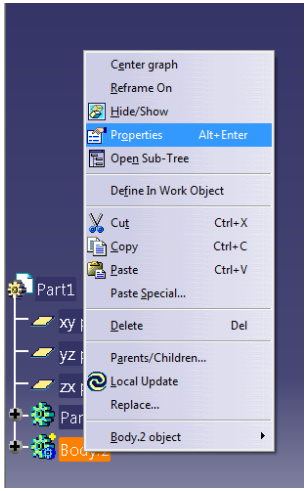
Shaft komutu Uygulanmış hali

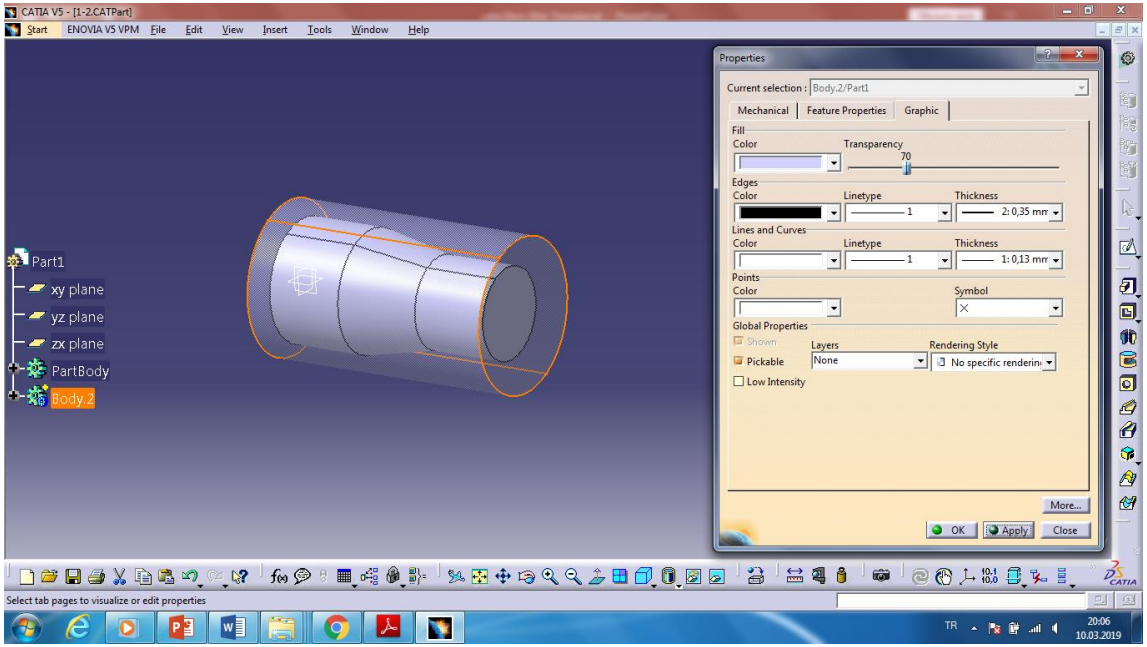


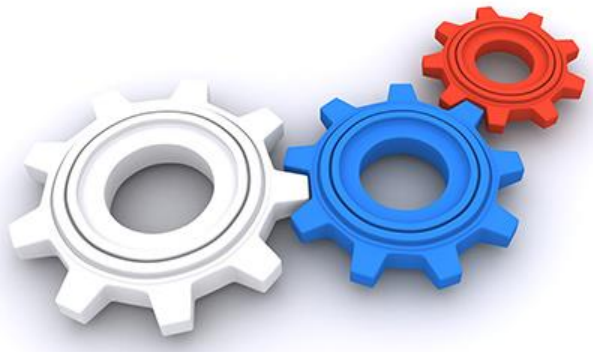
Silindirik Katı Model



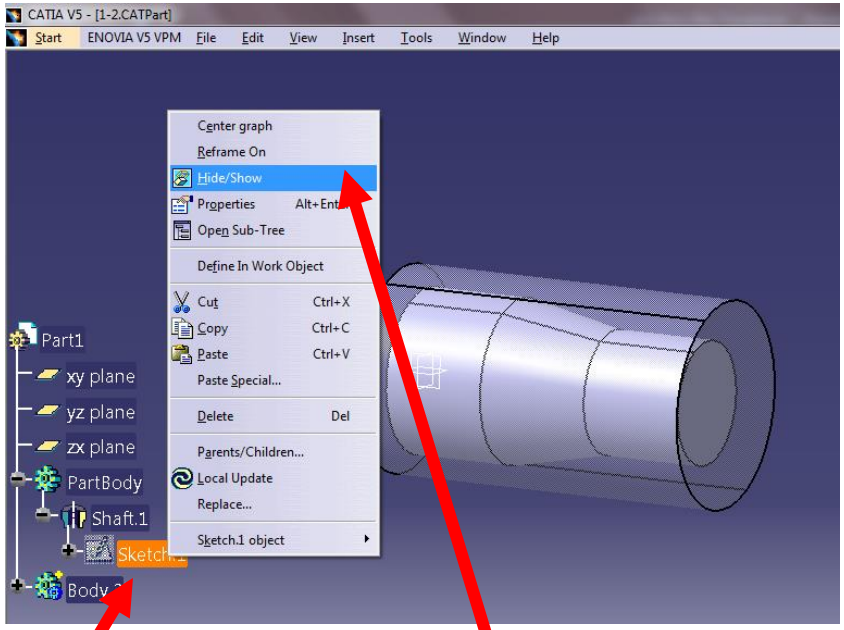
f) Body2 üzerinde sağ tıklanarak properties (özelliklere) girilir ve kütüğün Transparency (Saydamlık) değeri düşrülür

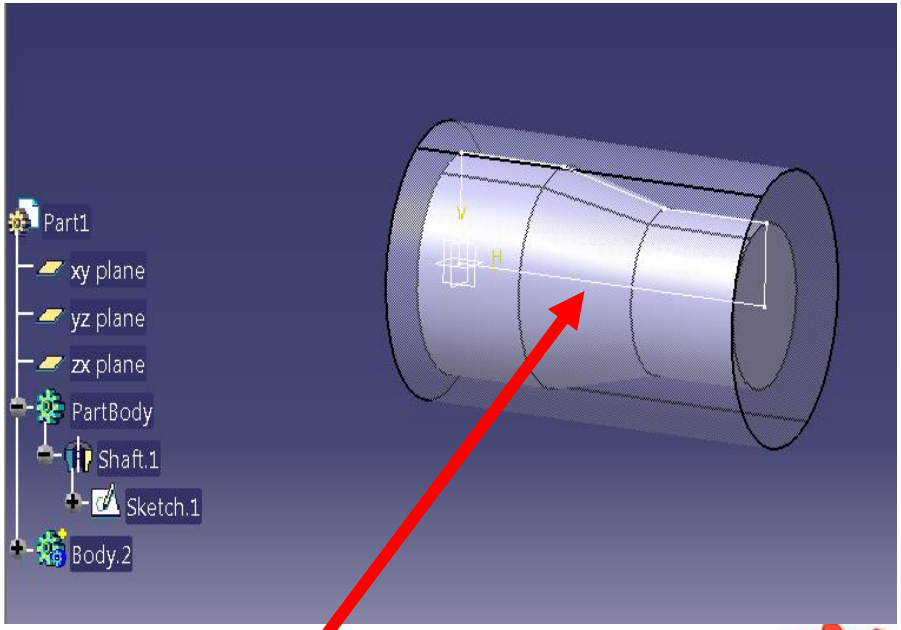




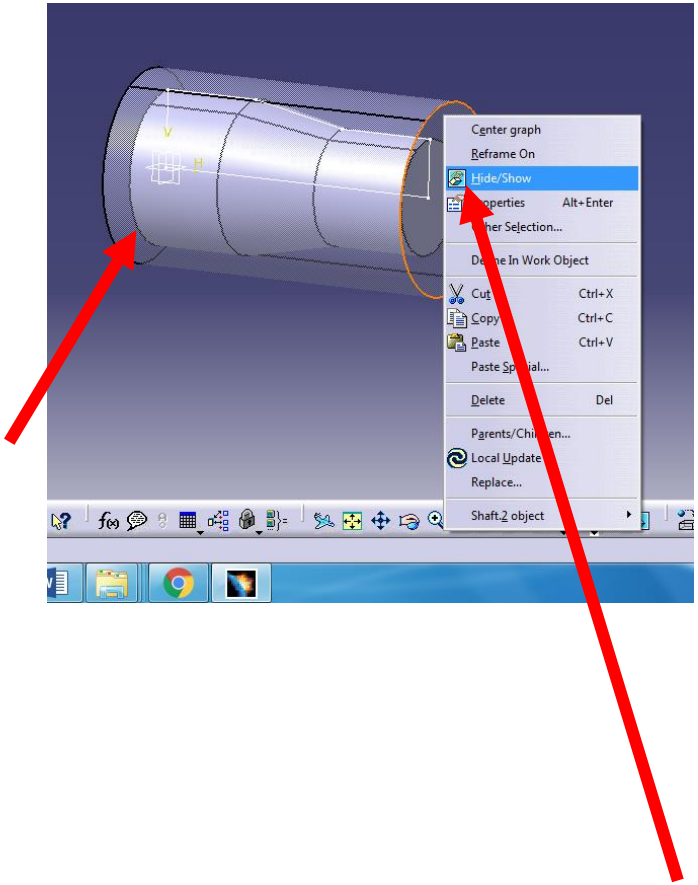


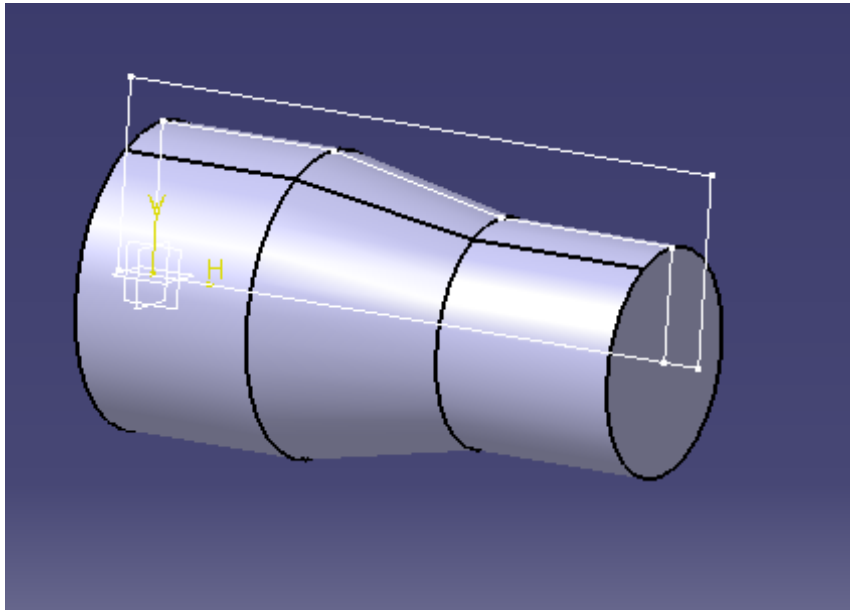
g) PartBody üzerindeki skech sağ tıklanarak hide Show tıklanır ve orijinal parçanın skech'i görnür hale getirilir (özelliklere) girilir ve kütüğün Transparency (Saydamlık) değeri düşrülür

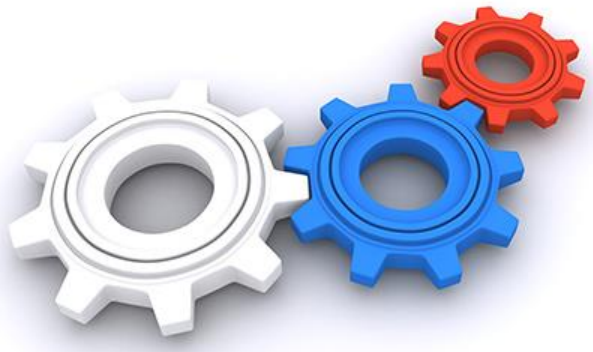




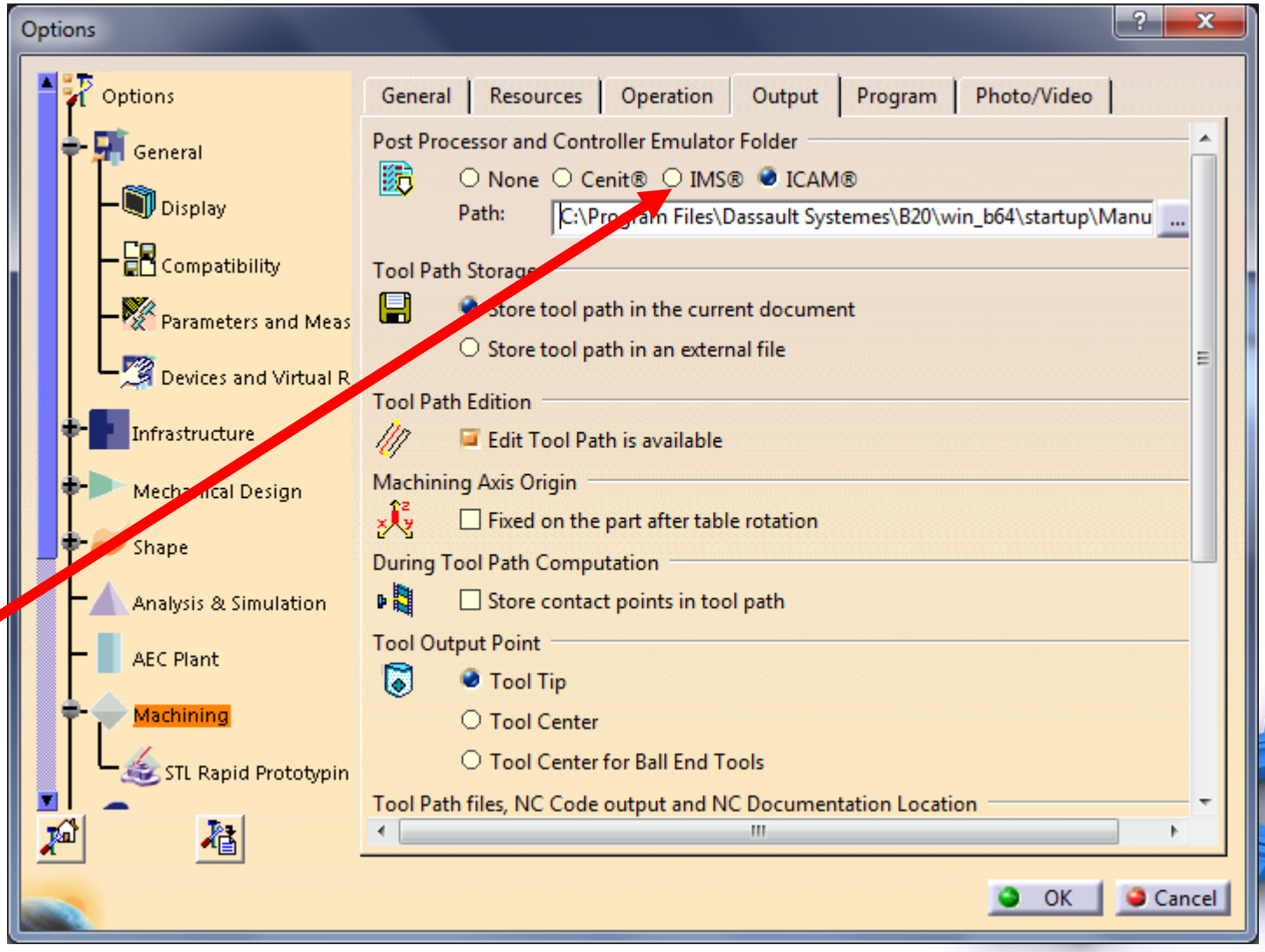
h) Kütük üzerine sağ tıklanarak hide Show tıklanır skech görnü kütük görmez hale getirilir





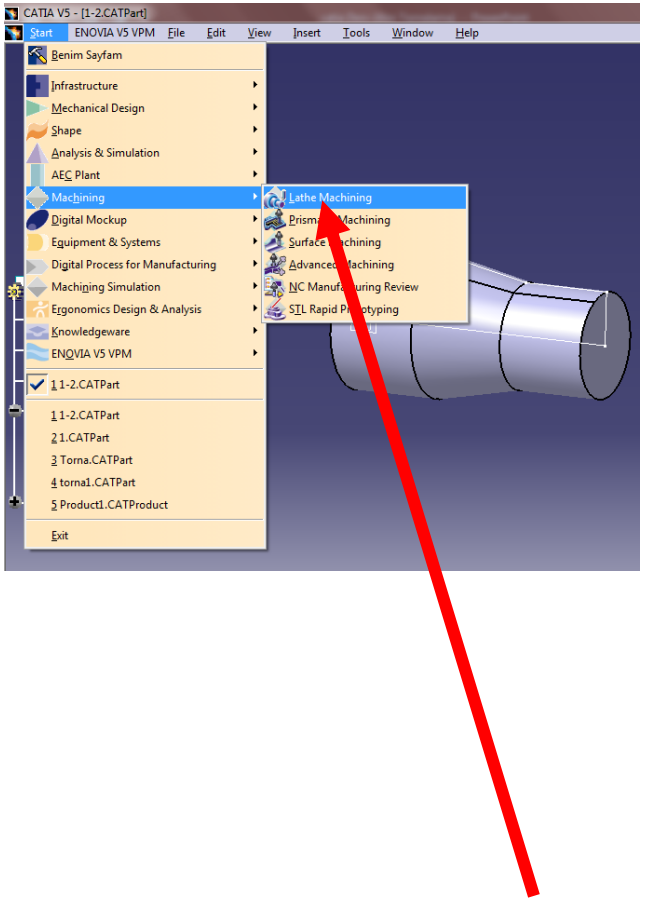


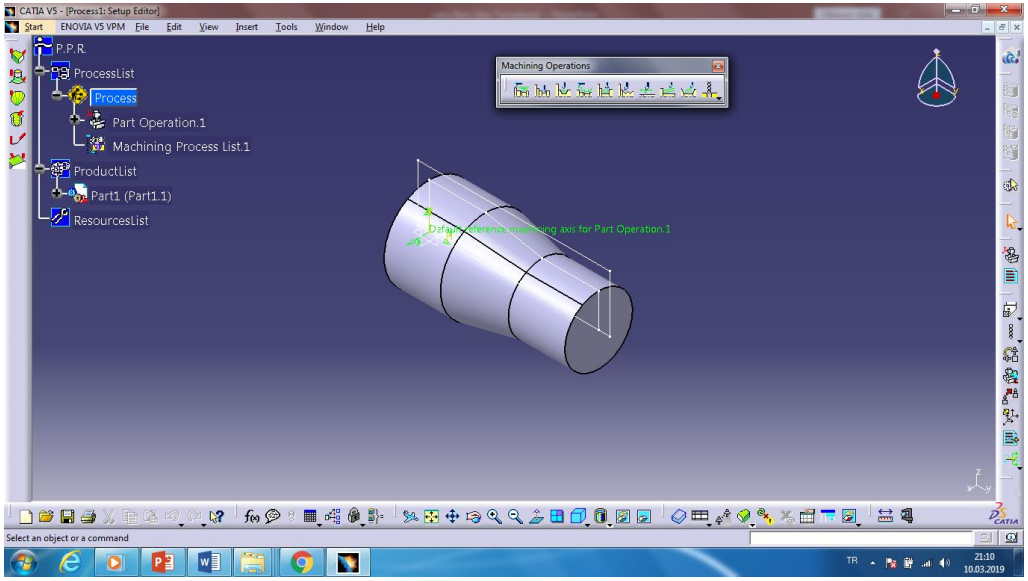
i) Tools Menusu/Options/Machining/Output a girilir **IMS** İşaretlenip ok tıklanır

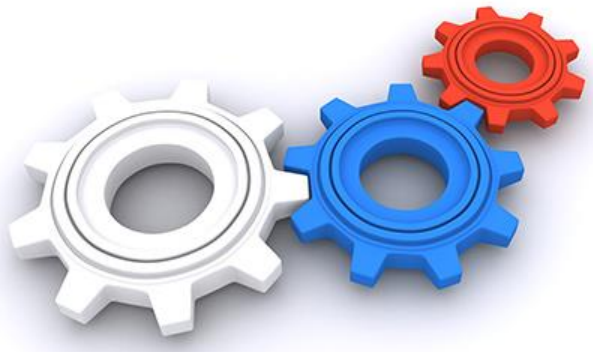


2- Lathe (Torna) Kısmı

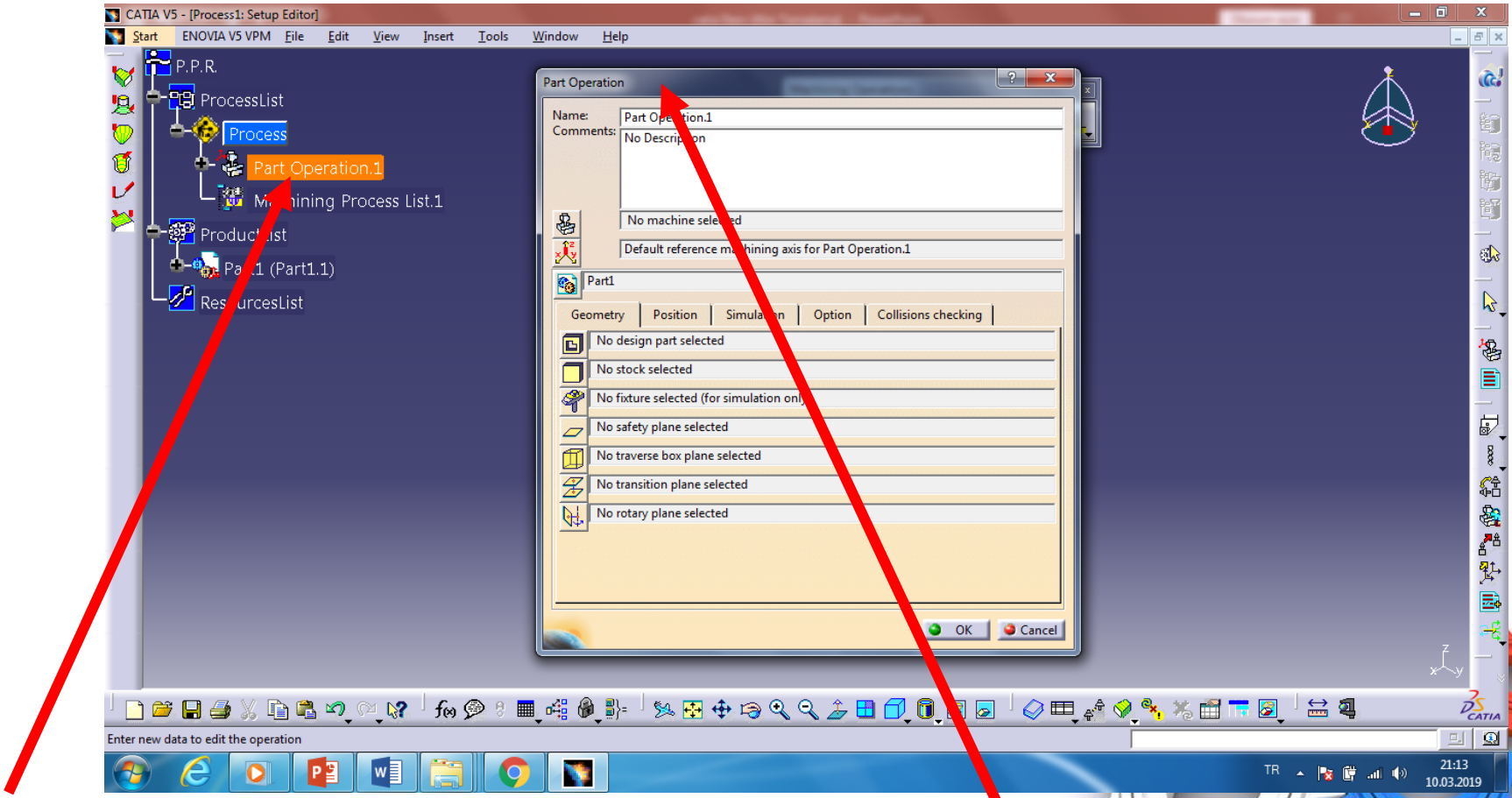
a) Start Menusu/Machining/Lathe Machining e girilir







b) Unsur ağacındaki Procces/Part Operation.1 tıklanır ve Part operation penceresi açılır



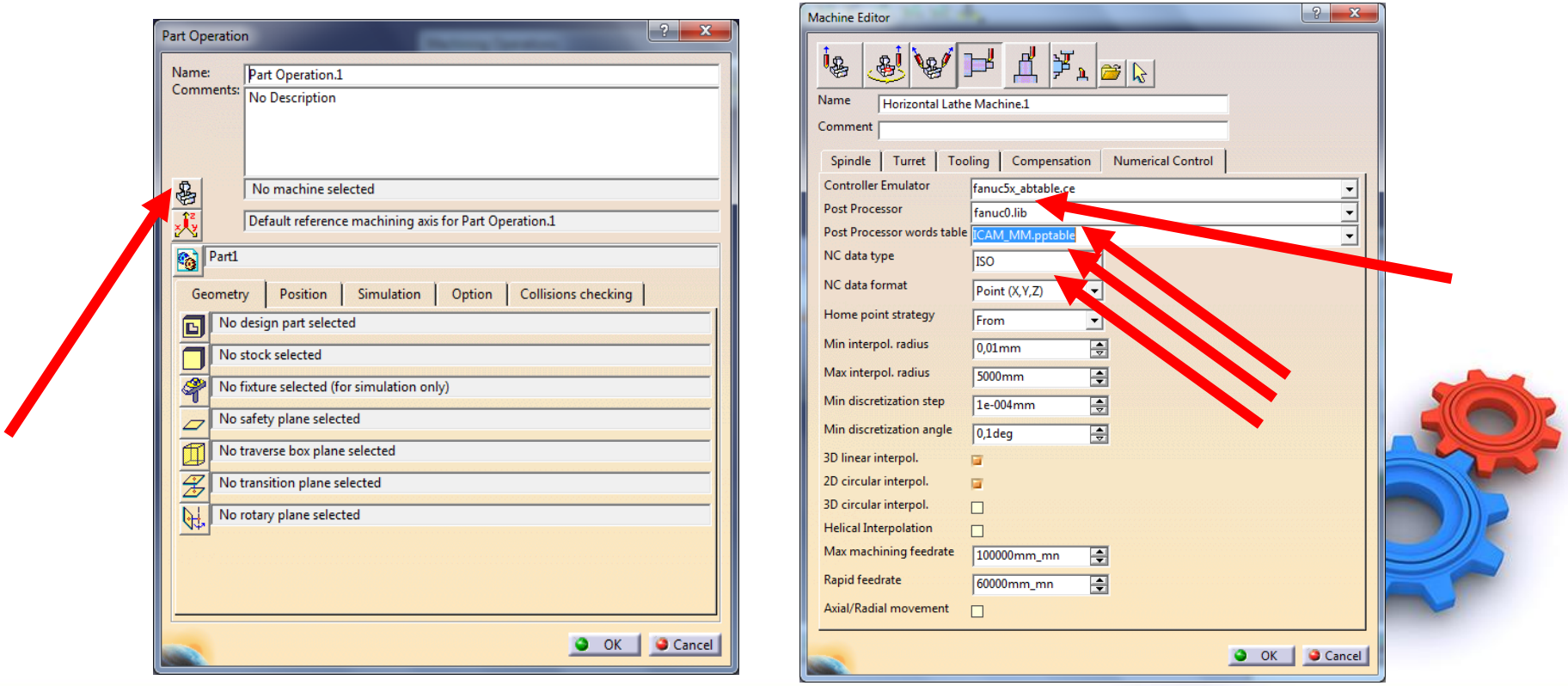
c) Machine butonuna tıklanır Numeric Kontrol kısmınave iso ve fanuc kodları için

Controler emulator : fanuc5x_abtable.ce

Post Processor : Fanuc0.lib

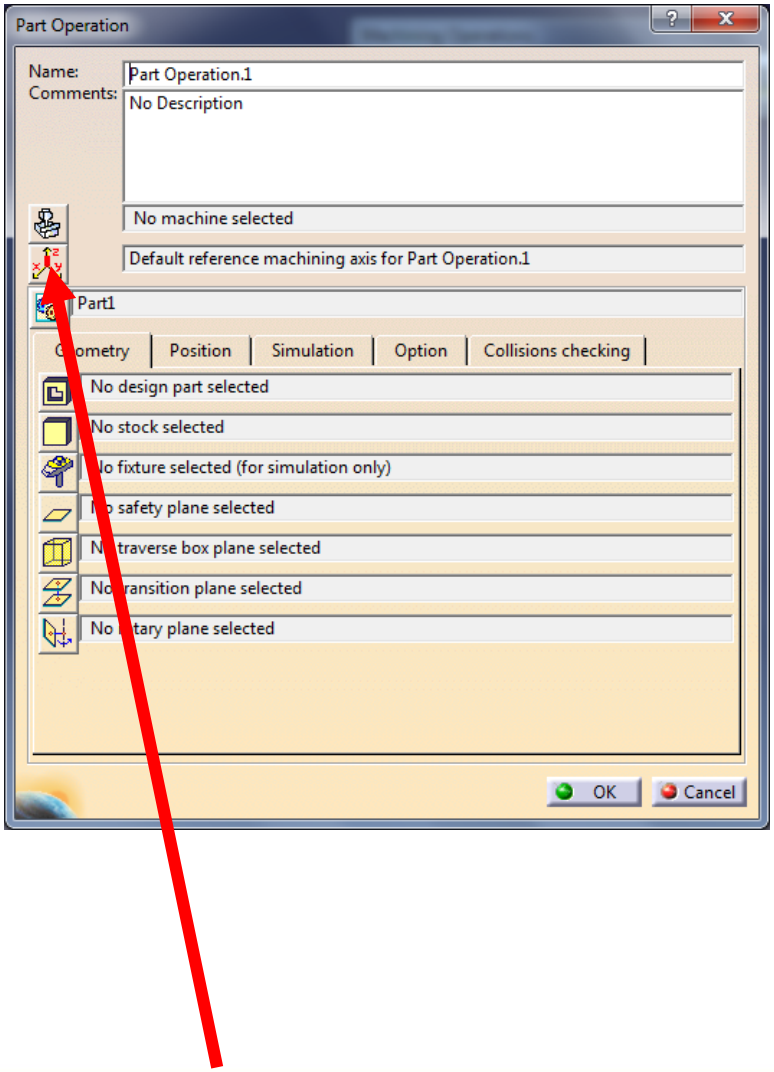
Post Processor words table : ICAM_MM.pptable

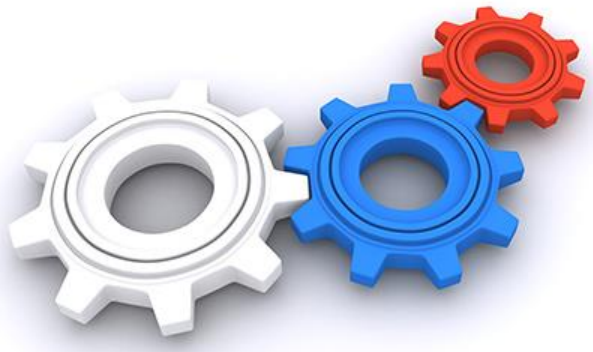
Nc data type : ISO Seçilir

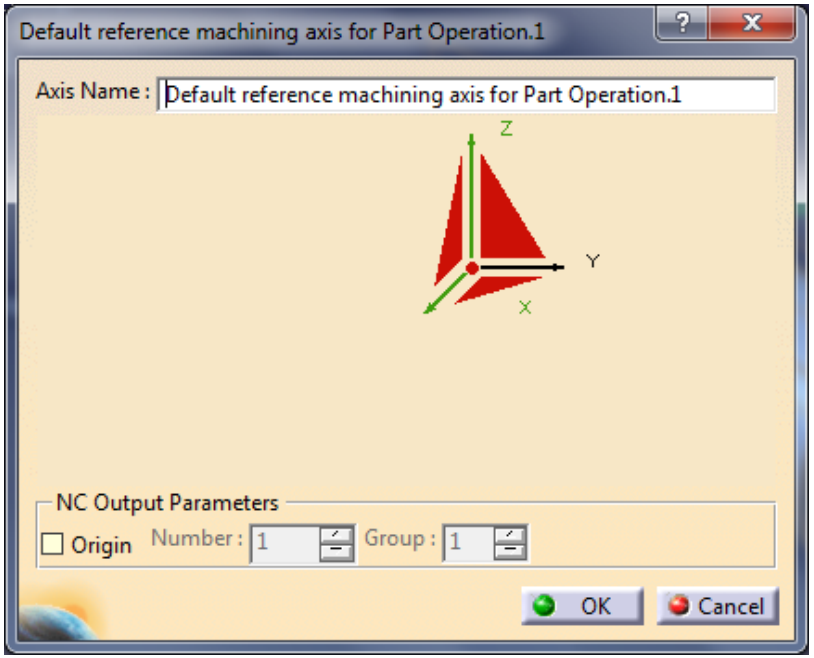


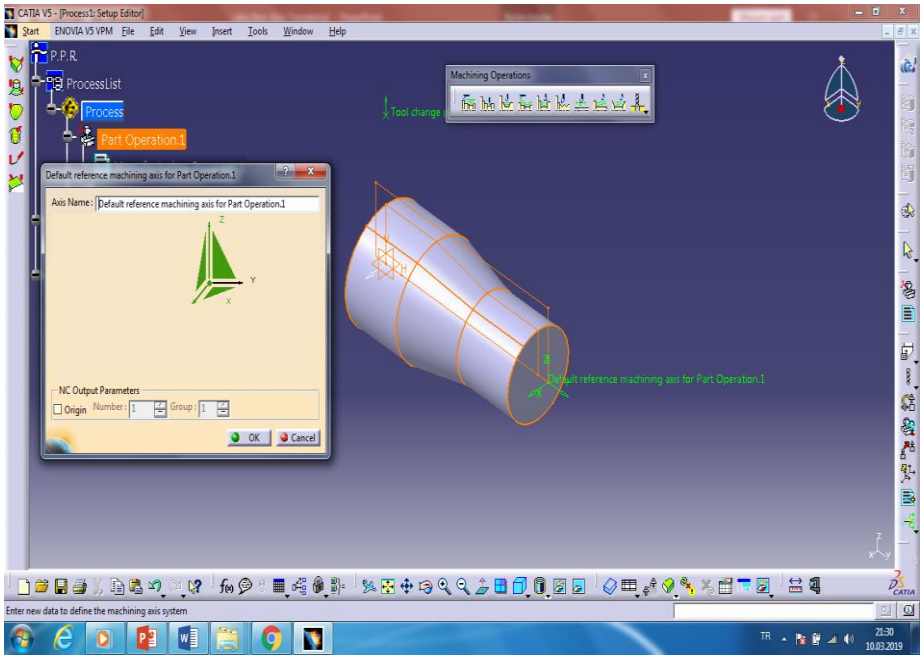
d) Makine eksenlerini tanımlamak için:

Referance Machining Axis System seçilir







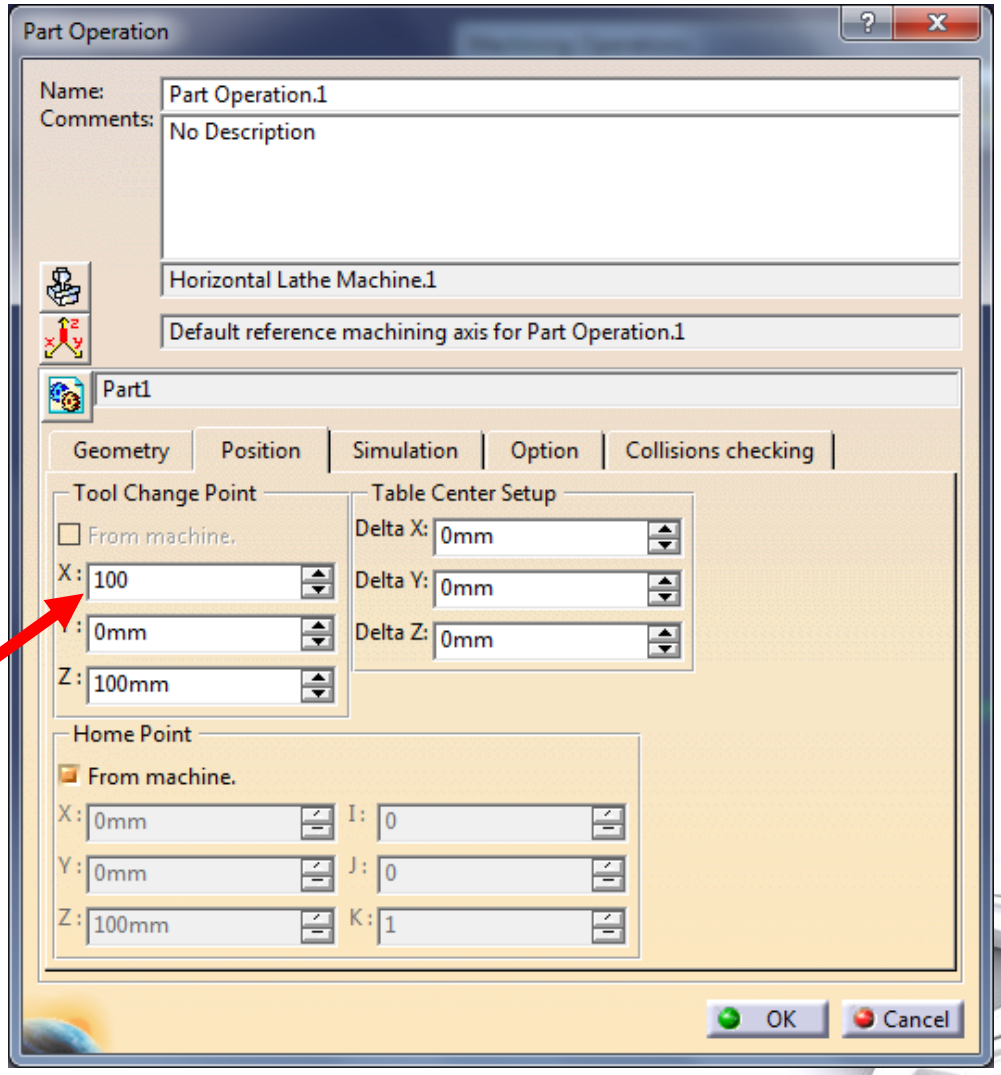


1-Eksenlerin ortasındaki merkez noktası seçilip punta deliği seçilir

2- Z Ekseni seçilip parçanın ortasından geçen eksen seçilir/ok

3- X Ekseni seçilip parçanın yukarıya bakan eksen seçilir/reverse /ok

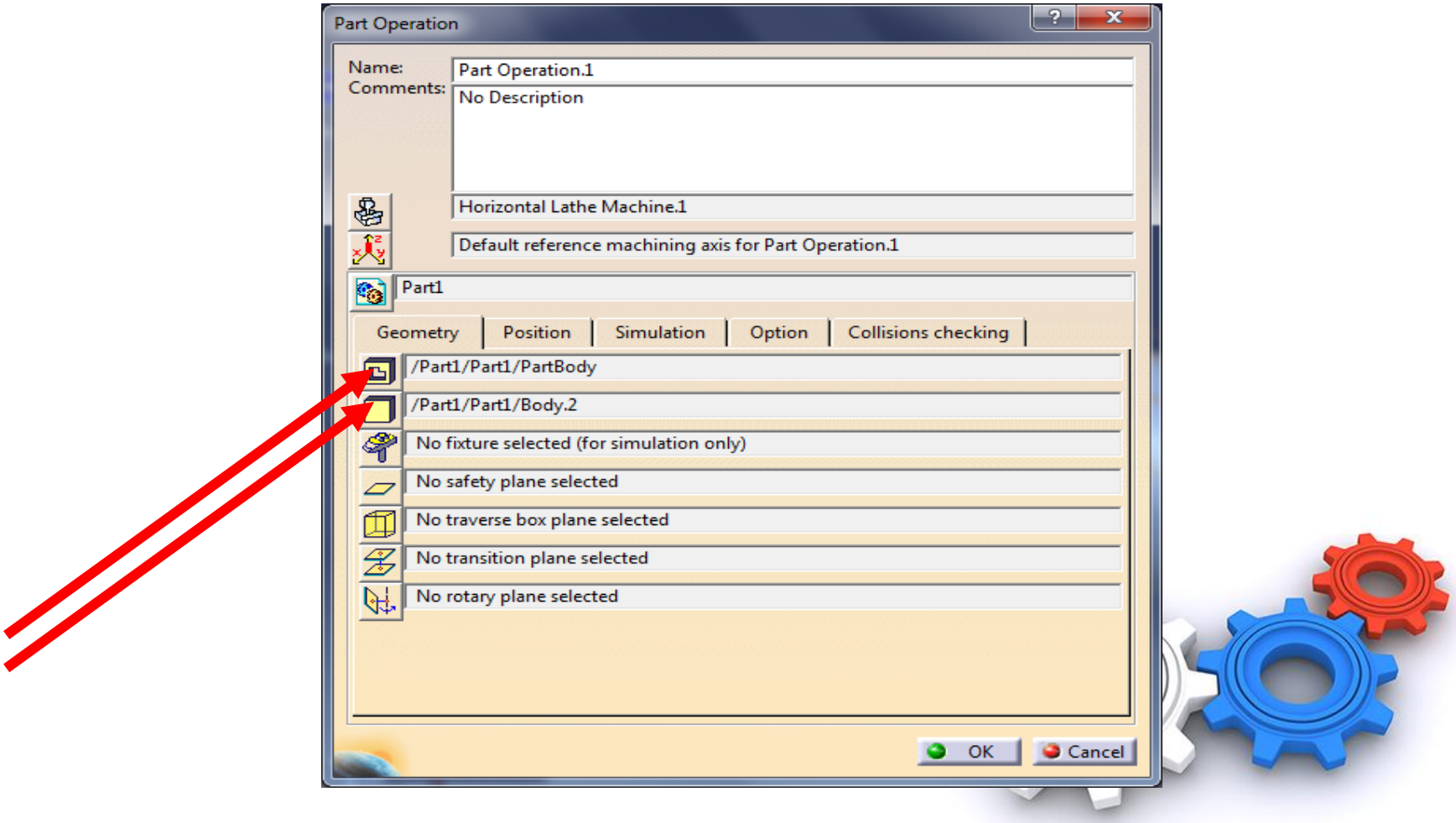
e) Position kısmına girilip x kısmına 100 değeri girilir



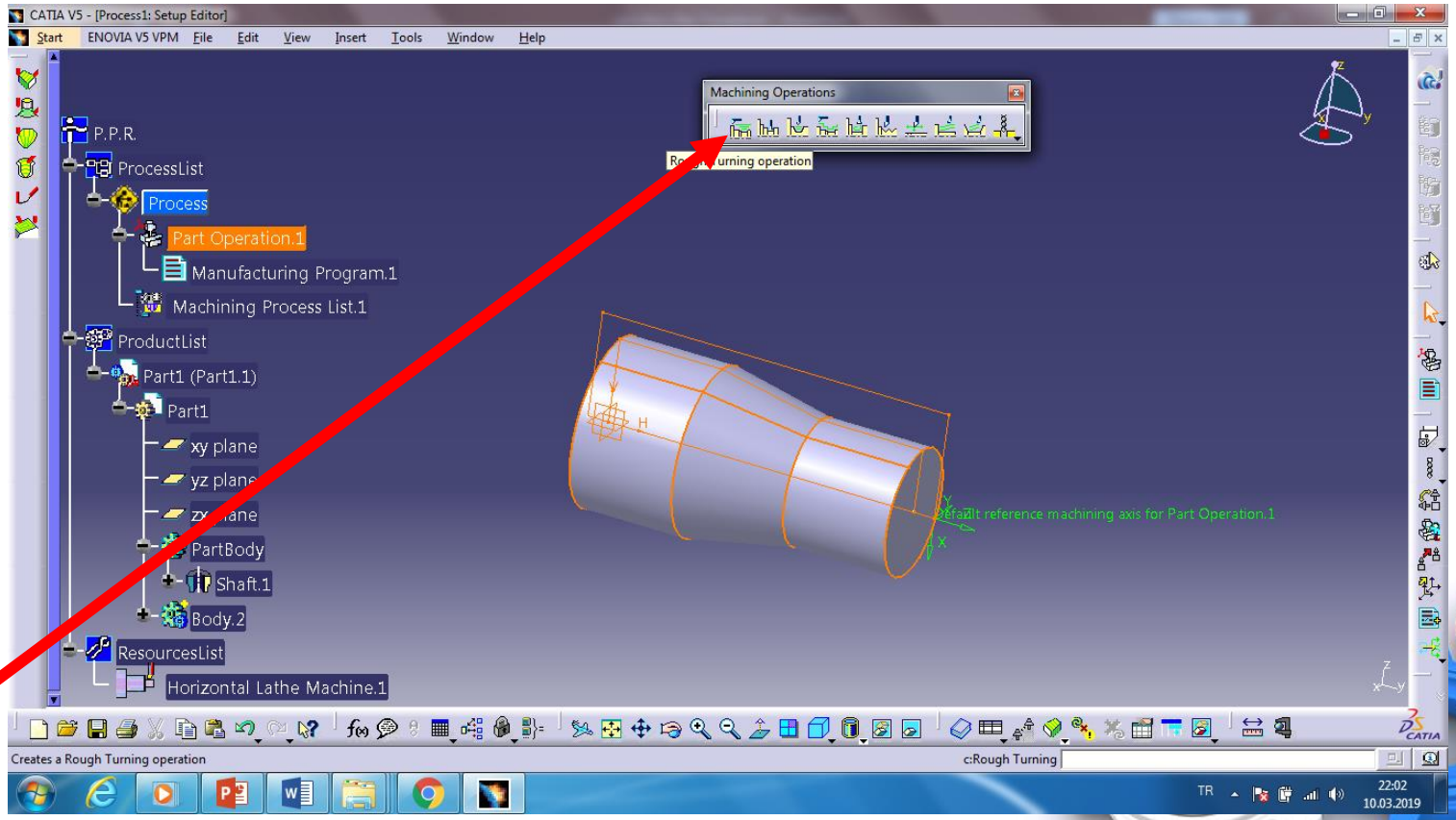
f) Desing part for simulation kısmı tıklanıp orijinal parça seçilir (Üzerindeki çizgiler tıklanır)

Stock kısmı tıklanıp kütük seçilir (Üzerindeki çizgiler tıklanır)

Ok Basılır

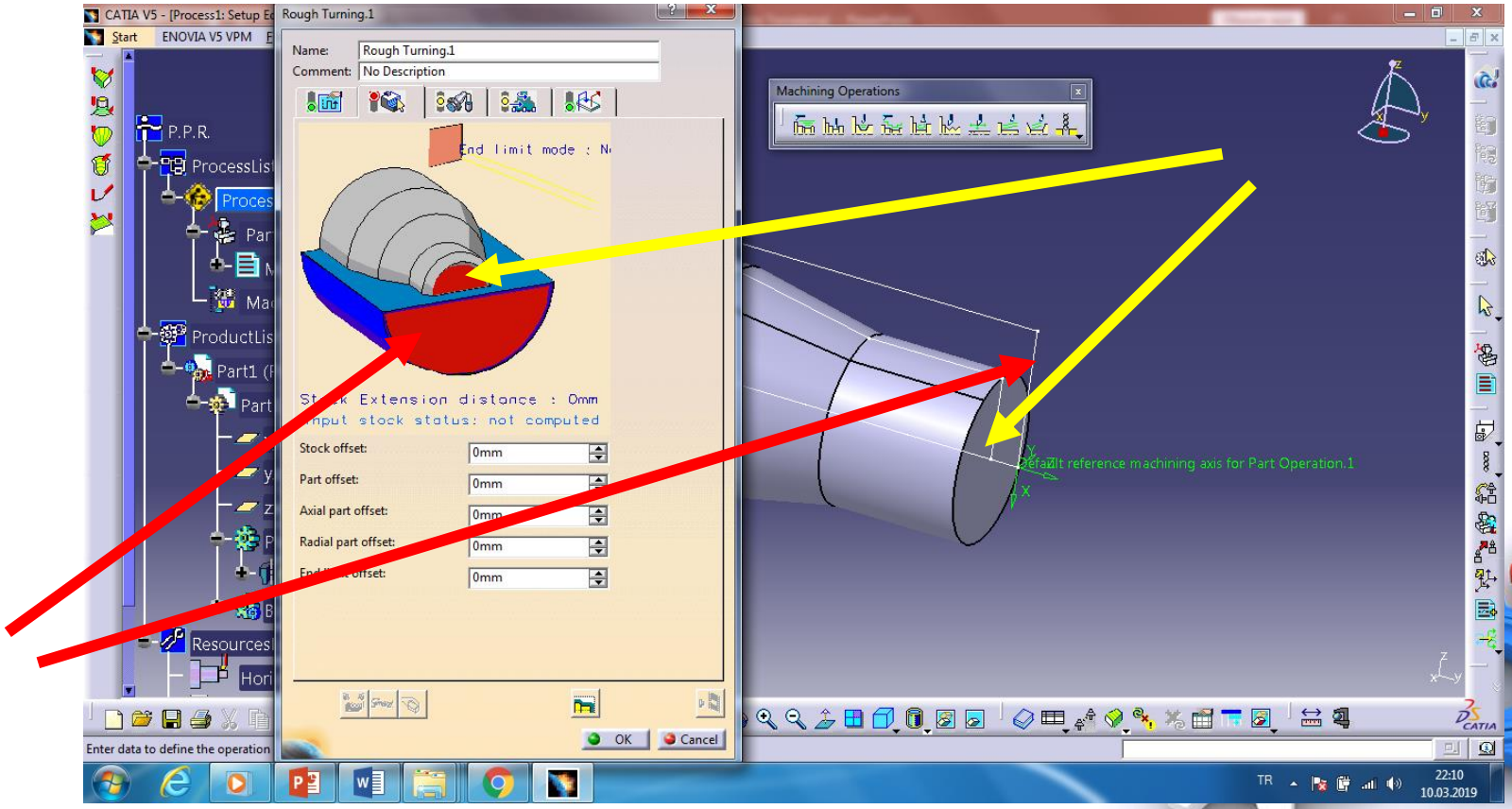


g) Machining Operation araç çubuğundan / Rough Turning Operation

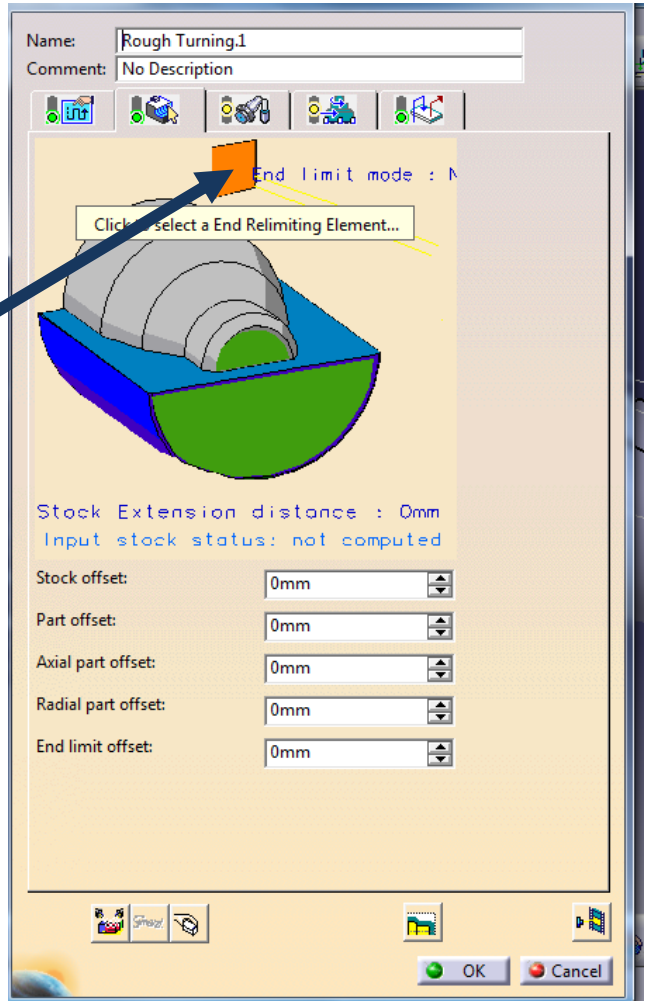


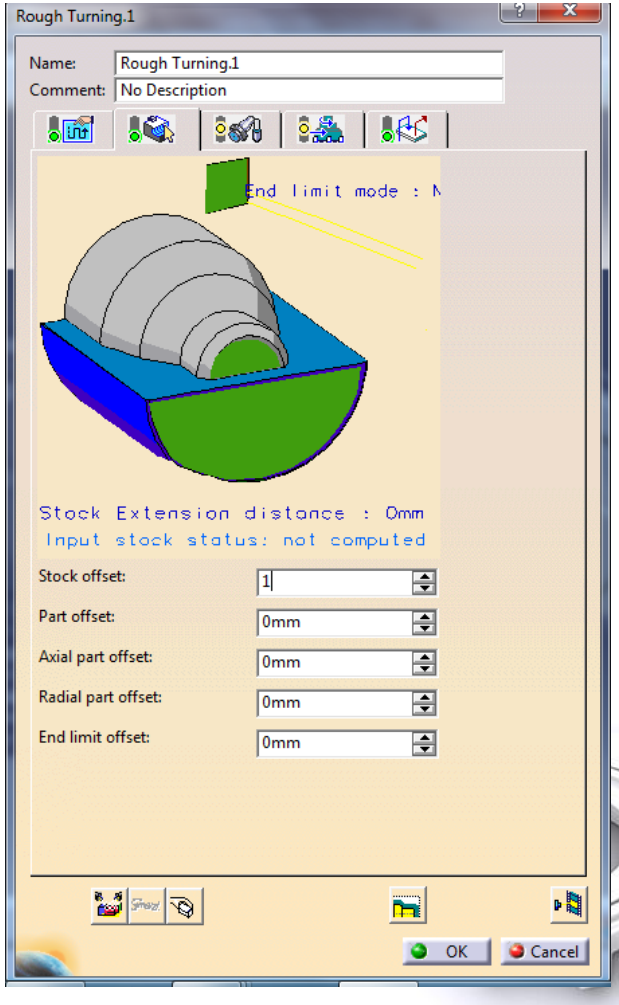
h) - Açılan pencereden kütüğün anlı seçilip ekrandaki kütüğün anlı tıklanır / ok (Penceredeki kırmız yeşil olur)

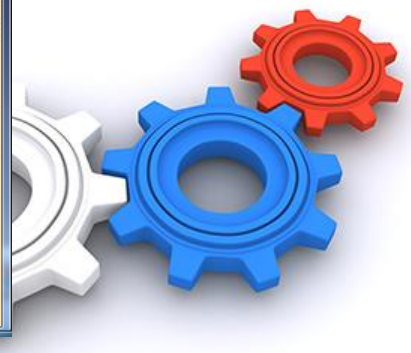
- Açılan pencereden orijinal parçanın anlı seçilip ekrandaki parçanın anlı tıklanır / ok (Penceredeki kırmız yeşil olur)



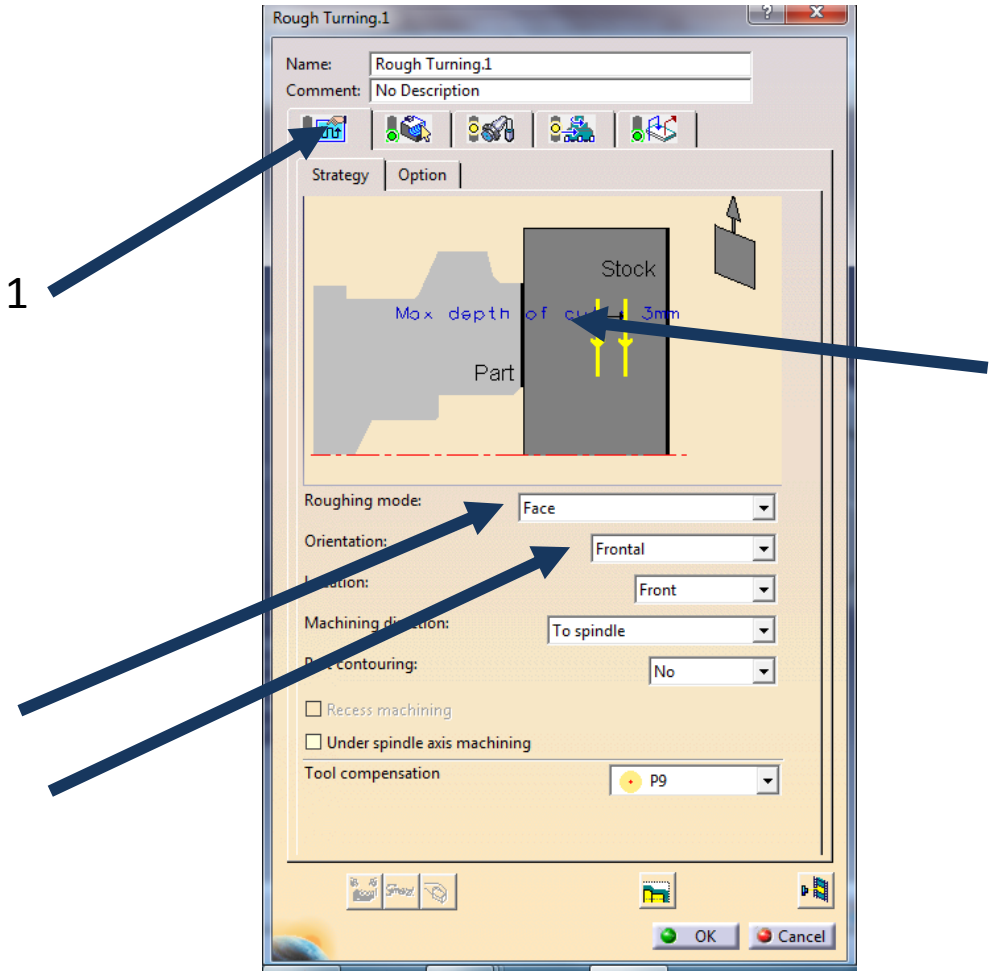
i) End Limit kısmı tıklanıp parçanın arka yüzeyi tıklanır
Stock ofset kısmına 1 girilir



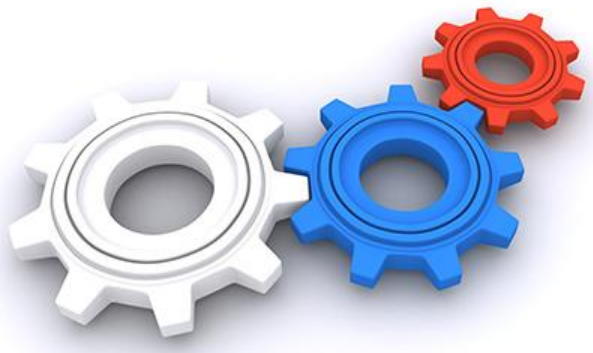




j) 1 numaralı sekme tıklanıp routghing mode kısmından / Face orientation kısmından / frontal seçilir

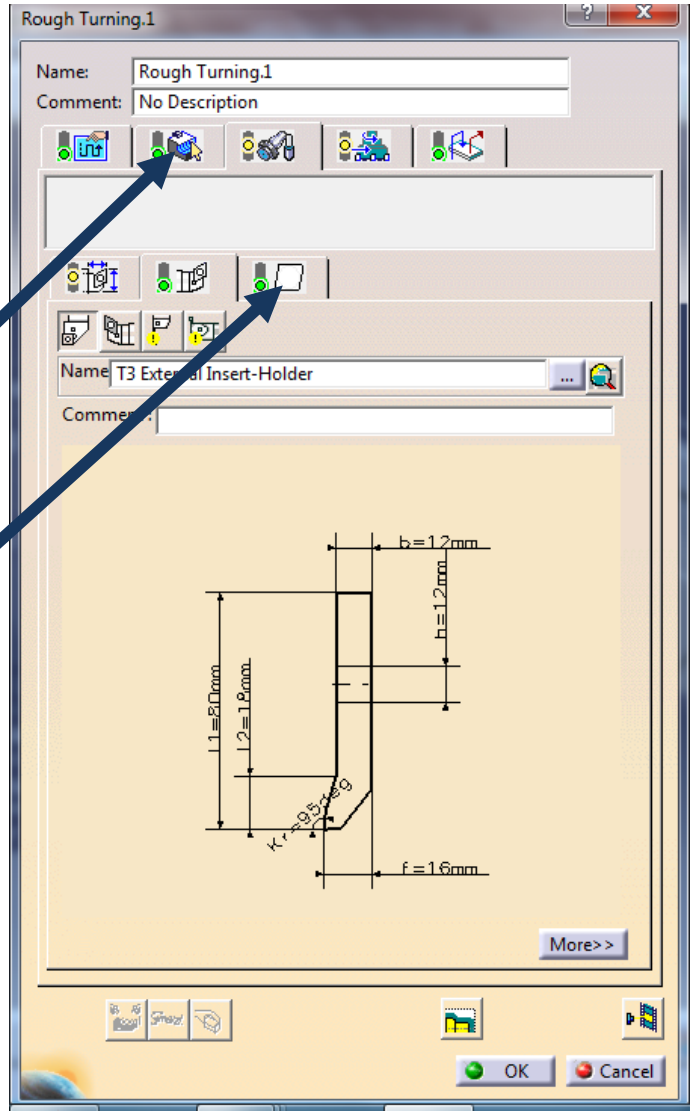


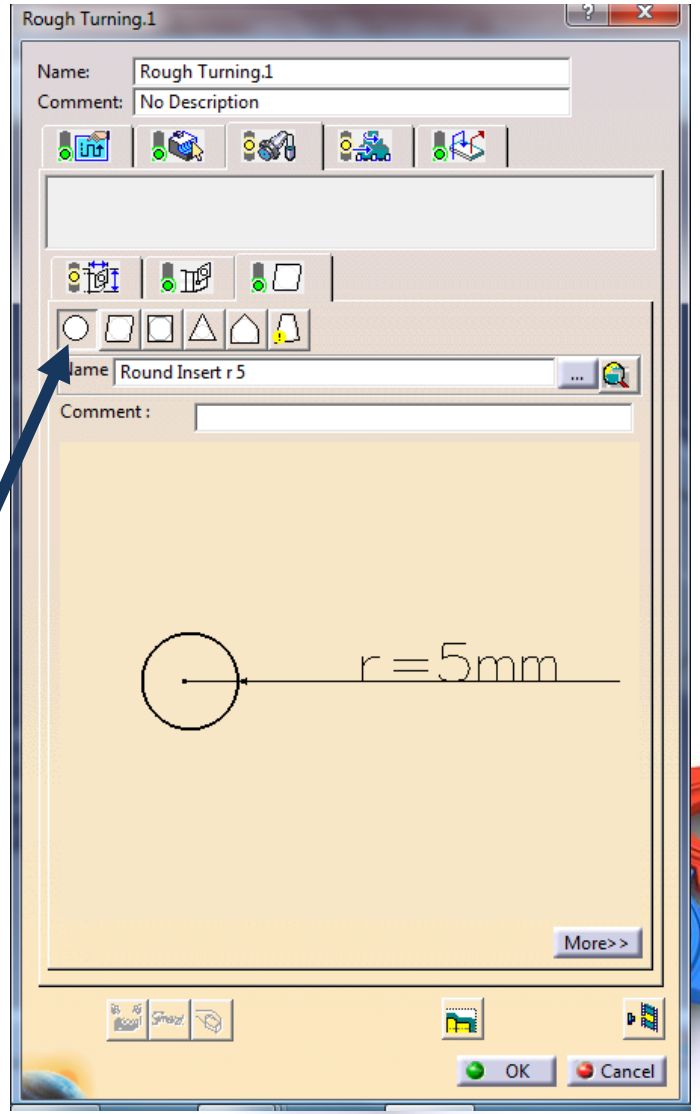
Max Depth of cut tıklanıp bir seferde alınacak talaş miktarı yazılır



K) 2 numaralı sekme tıklanıp torna kalemi ucu seçilir (yuvarlak olan)

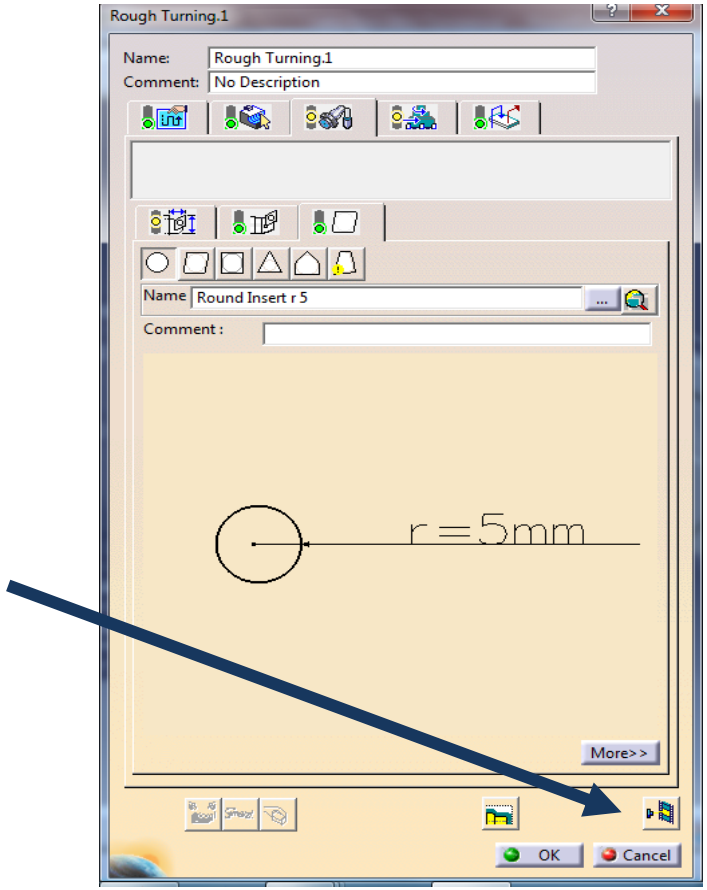
2

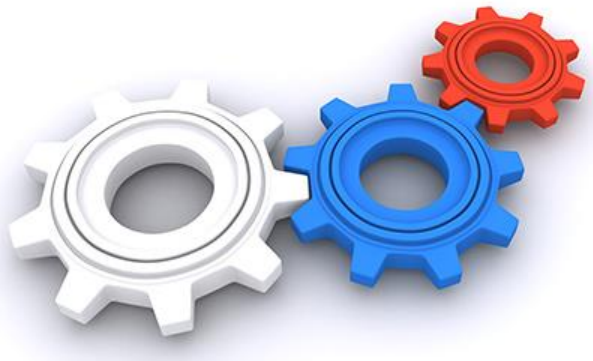




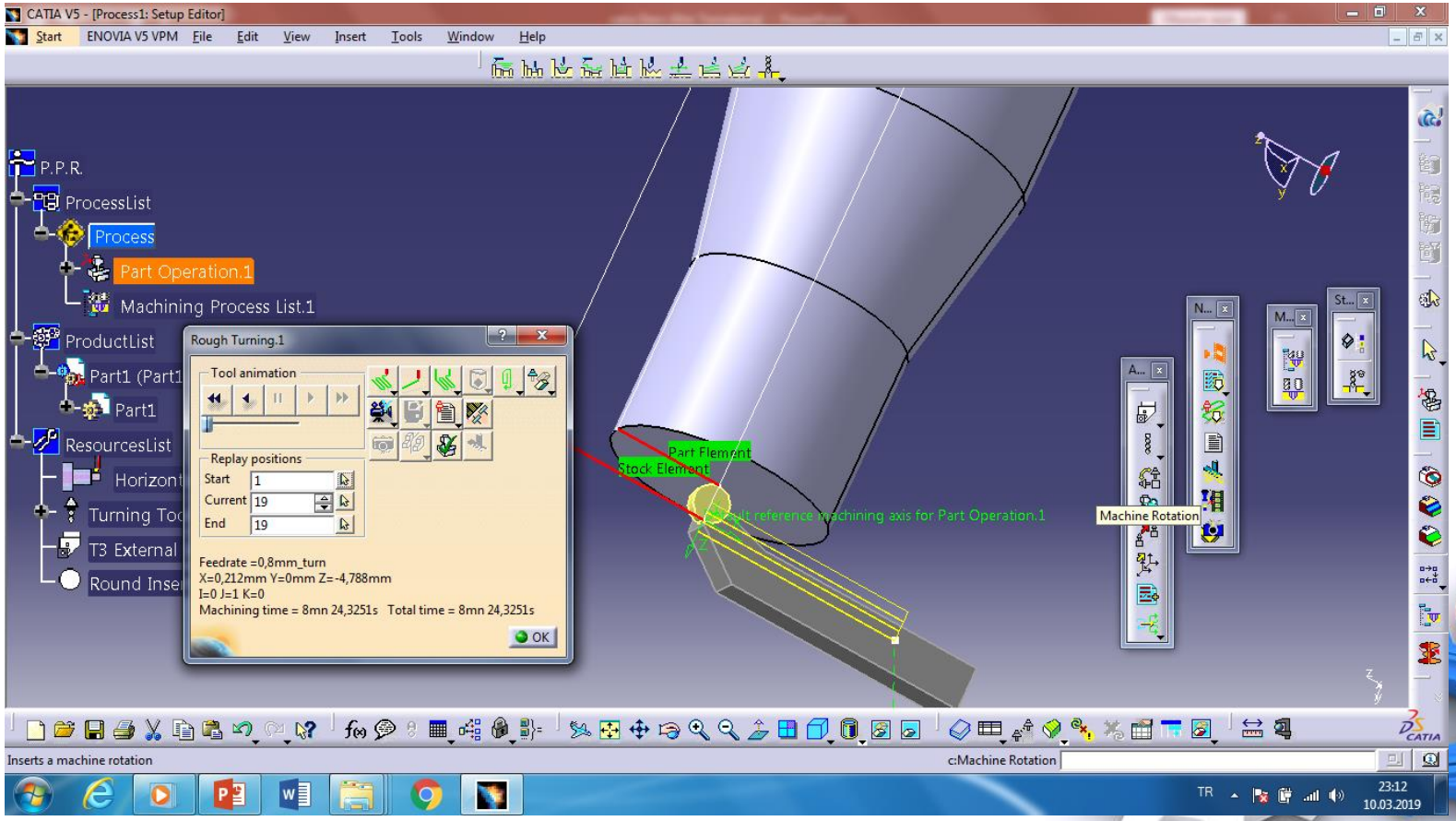
3- Simulasyon

a) Rought turning penceresindeki Tool Path Replay butonuna tıklanır

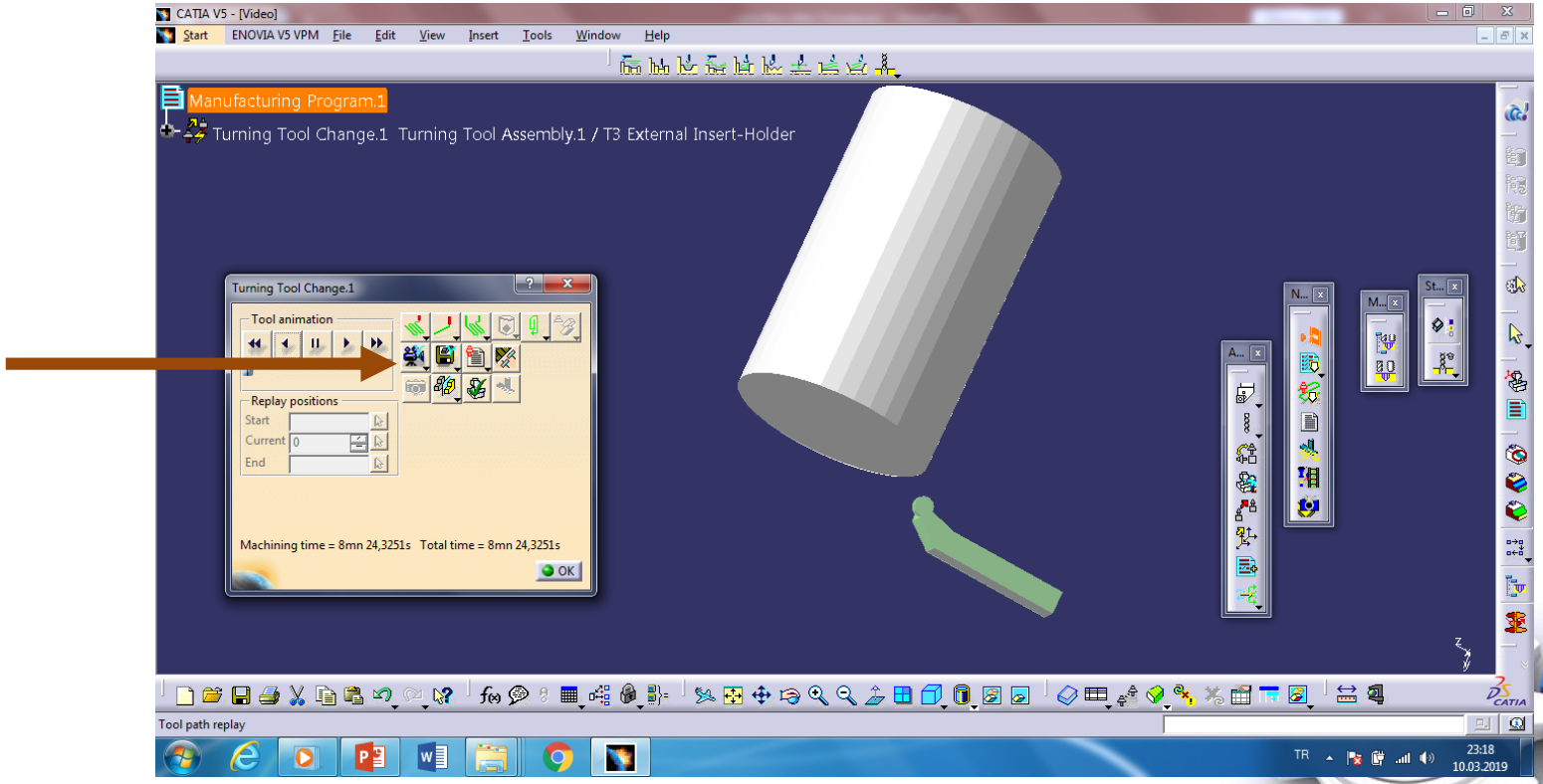




b) Açılan simulasyn penceresindeki Backward Replay ve Forward Replay (F6-F7) butonuna tıklanarak simülasyon izlenir

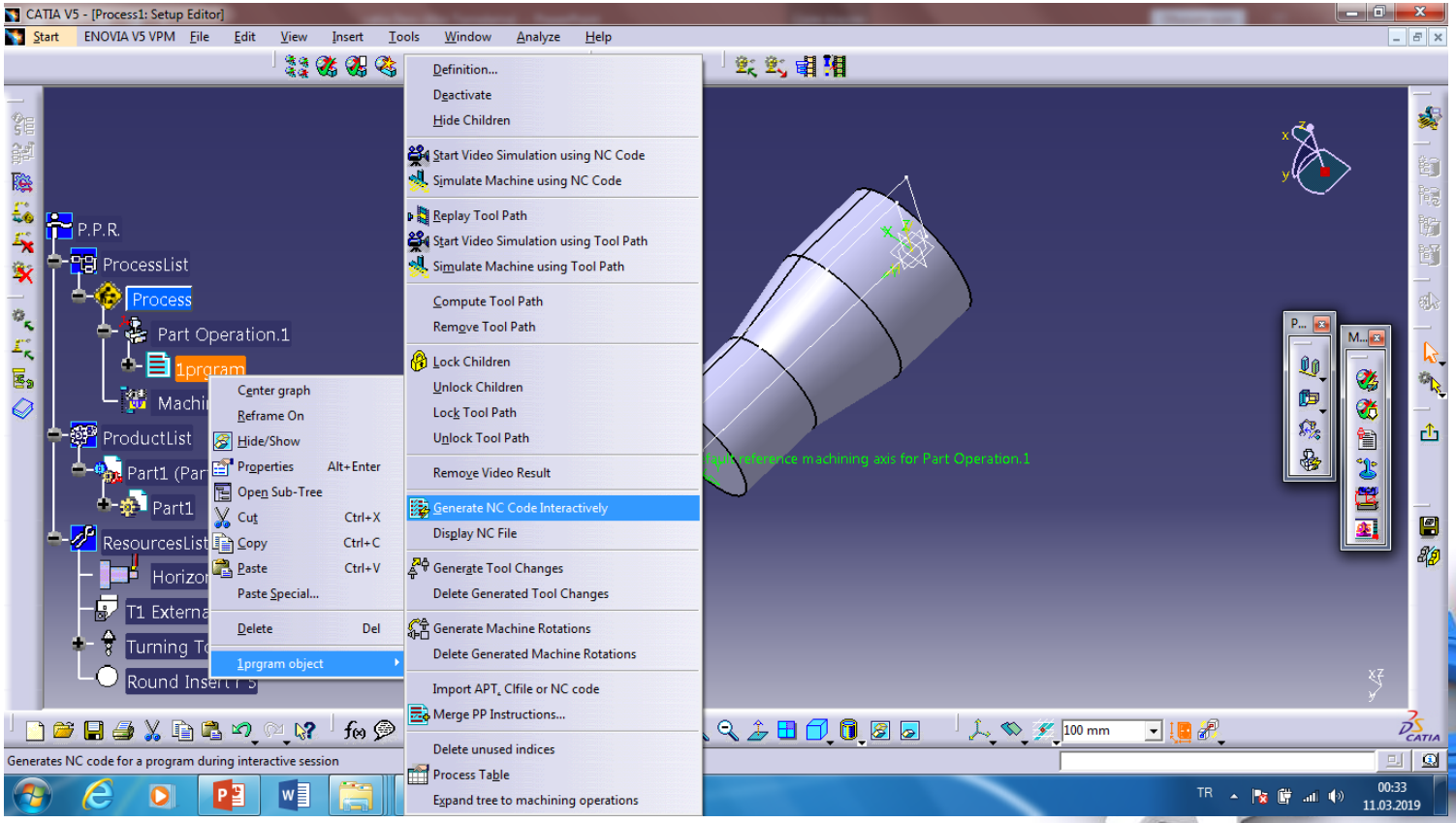


c) Kamera butonu tıklanarak tam simülasyon izlenebilir

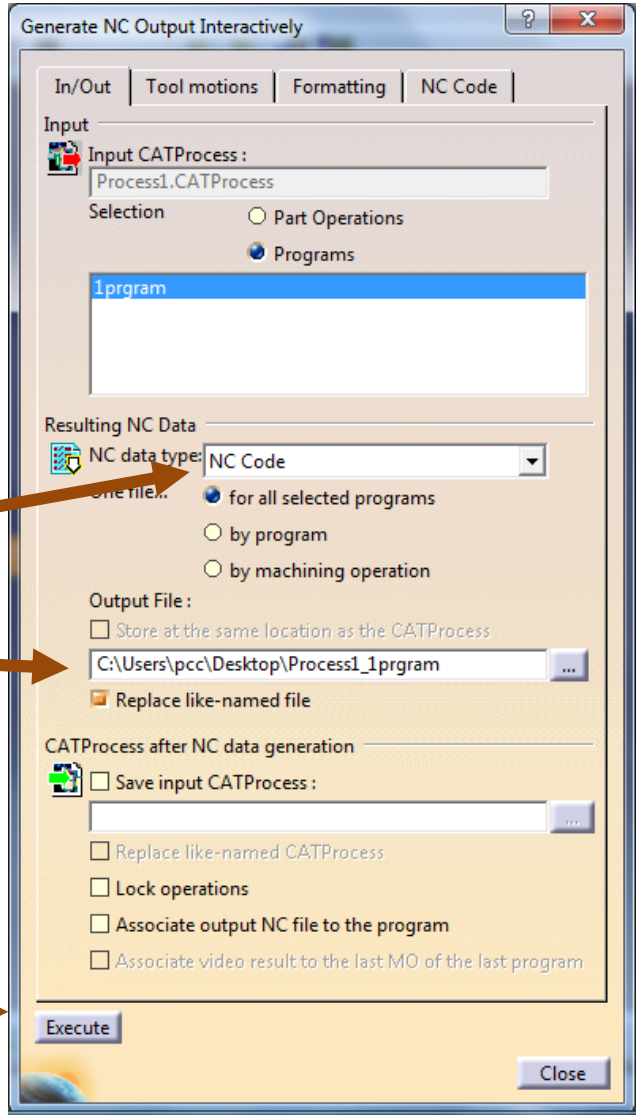


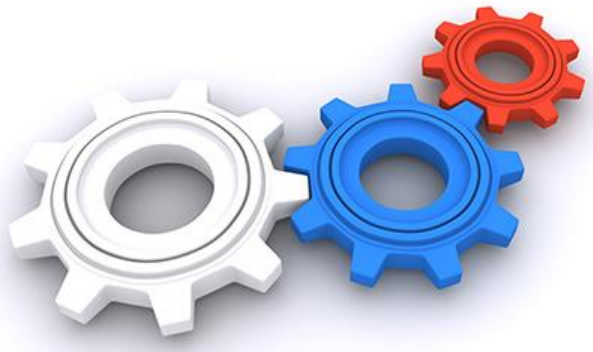
4- NC Kodu Üretme

a) Unsur Ağacındaki part operation1 altında bulunan program'a sağ tıklayıp Program object / generic Nc Code Intercitively tıklanır

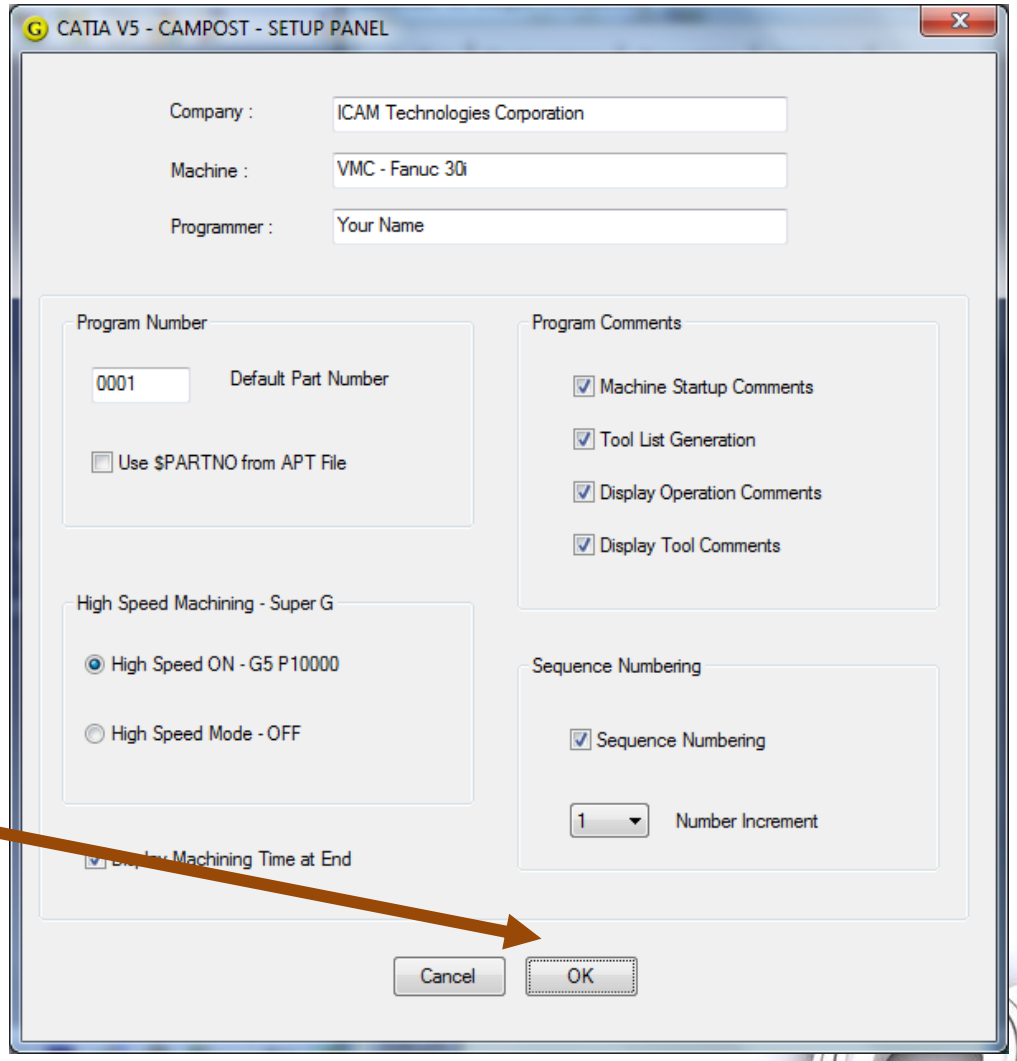


b) Nc Code seçilir, nc kodunun kaydedileceği klasör belirlerinin execute butonuna basılır

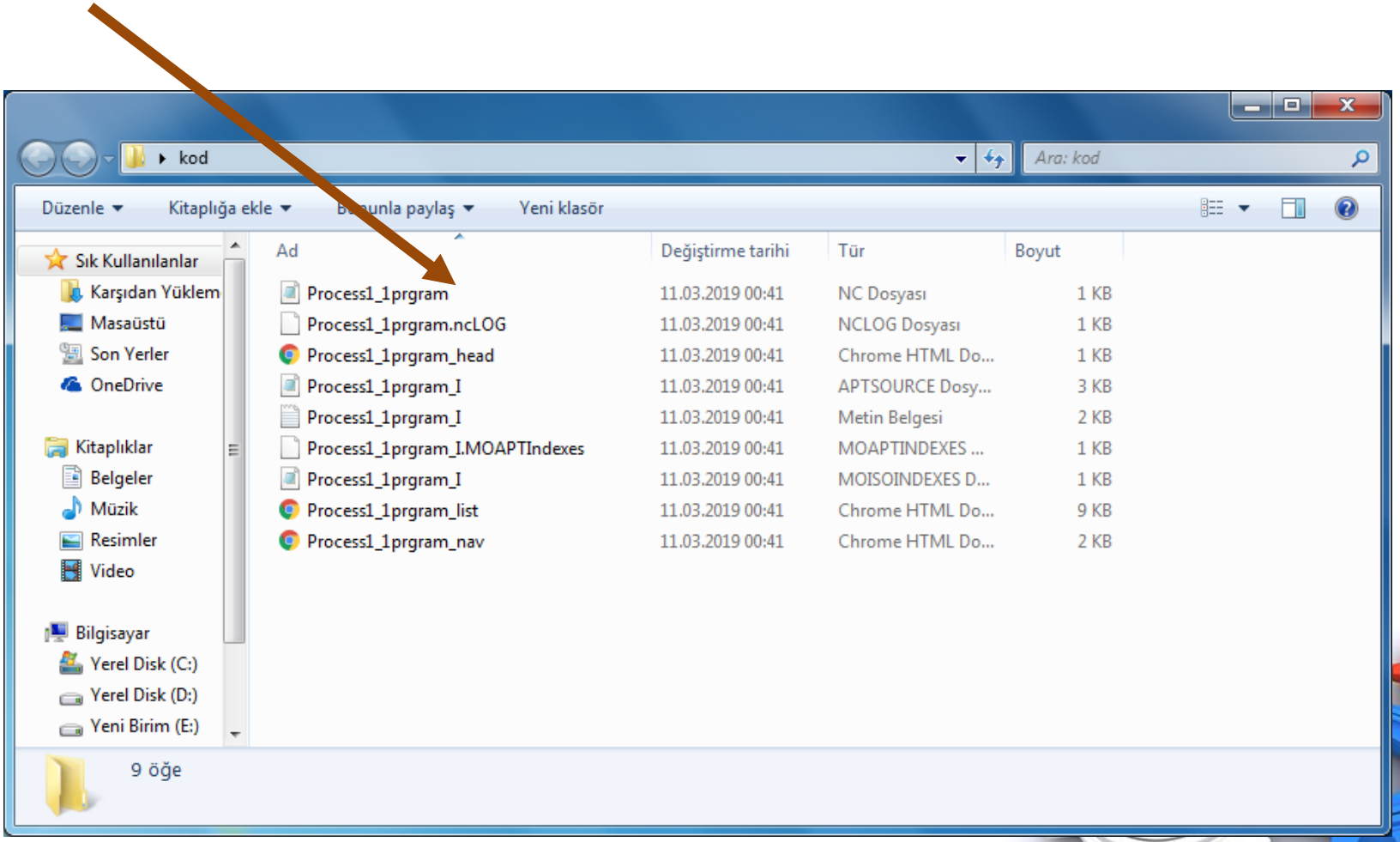




c) Ok basılır


CATIA V5 - CAMPOST - SETUP PANEL
Company :
ICAM Technologies Corporation
Machine :
VMC - Fanuc 30i
Programmer :
Your Name
Program Number
0001
Default Part Number
Use $PARTNO from APT File
Program Comments
Machine Startup Comments
Tool List Generation
Display Operation Comments
Display Tool Comments
High Speed Machining - Super G
High Speed ON - G5 P10000
High Speed Mode - OFF
Sequence Numbering
Sequence Numbering
1
Number Increment
Machining Time at End
Cancel
OK

d) En üstteki Process1_1program dosyası not defteri ile açılır



e) Nc Kod dosyasının içeriği (Post Dosyası)

Process1_1prgram - Not Defteri

Dosya Düzen Biçim Görünüm Yardım

```
!
! WARNING
! For demonstration purposes only
%
O0001  (CATIA P.O. COMMENTS)
(COMPANY       : ICAM Technologies Corporation)
(MACHINE       : VMC - Fanuc 30i)
(CL FILE       : Process1_1prgram_I.aptsource)
(DATE & TIME   : 11-Mar-2019 - 00:41:07)
(PROGRAMMER    : Your Name )
(=====   TOOL LIST FOR PROGRAM    =====)
(TOOL #         TOOL NAME              )
(OPERATION: Rough Turning.2)
G94 G01 X57. Y0. Z2.5 F21. S70 M3
X55.
X0. F28.
X.212 Z2.712 F56.
G00 X57.
Z0.
G01 X55. F21.
X0. F28.
X.212 Z.212 F56.
G00 X57.
Z-2.5
G01 X55. F21.
X0. F28.
X.212 Z-2.288 F56.
G00 X57.
Z-5.
G01 X55. F21.
X0. F28.
X.212 Z-4.788 F56.
M5
G91 G28 Z0.
```