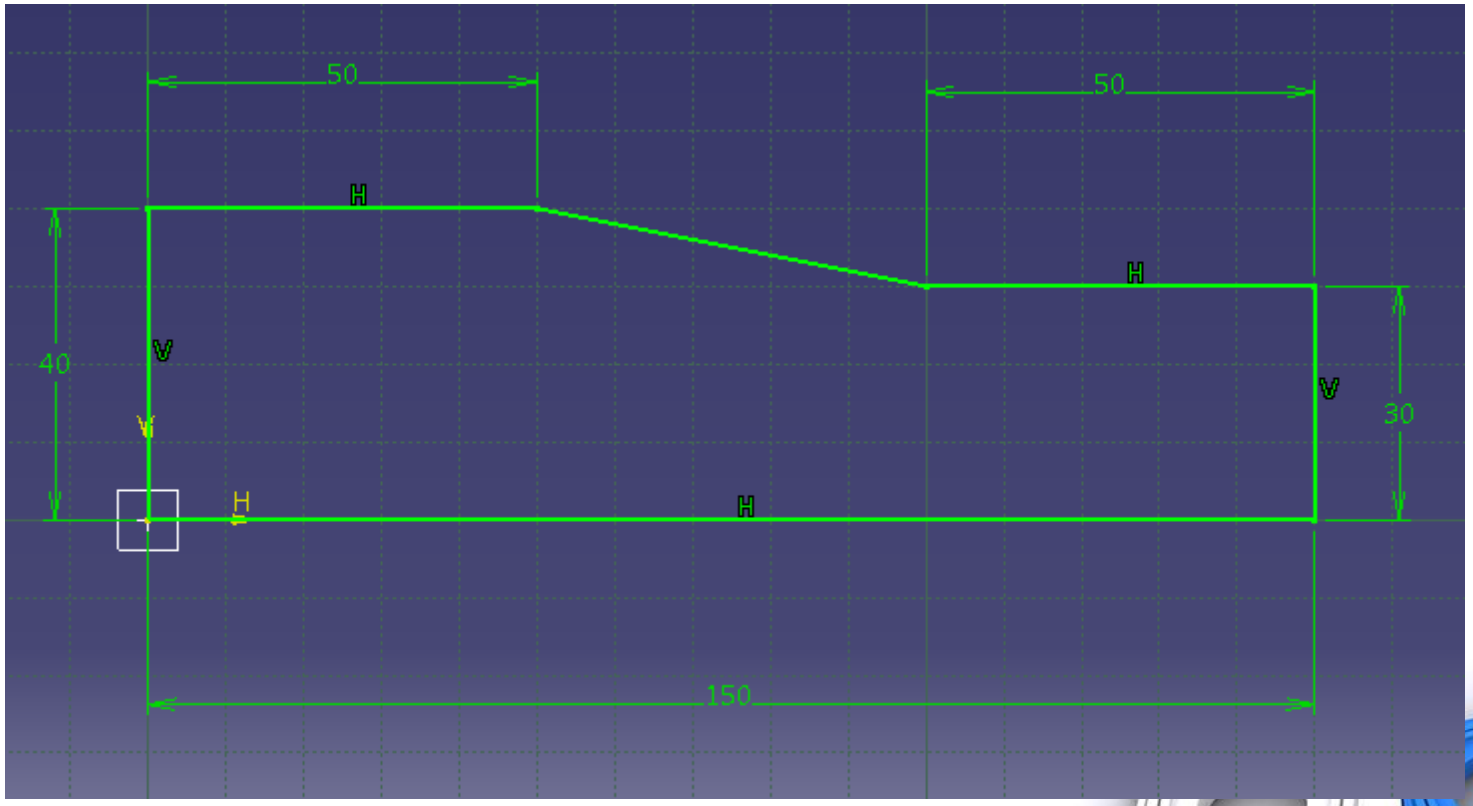
Catia

-Kaba Yüzey Tornalama-

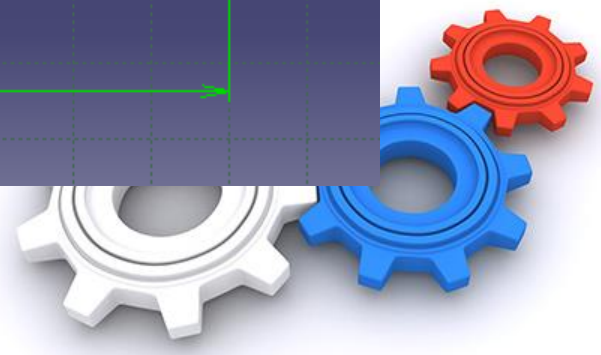
Ahmet SAN

1- Parça Çizimi

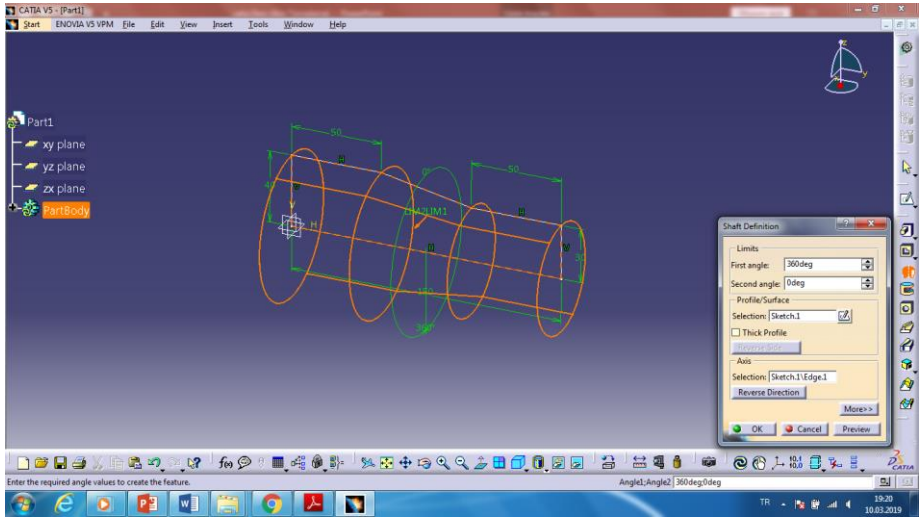
a) Skech araçları kullanılarak aşağıda ölçüleri verilen parça YZ Düzlemine (Karşı Düzleme) çizilir



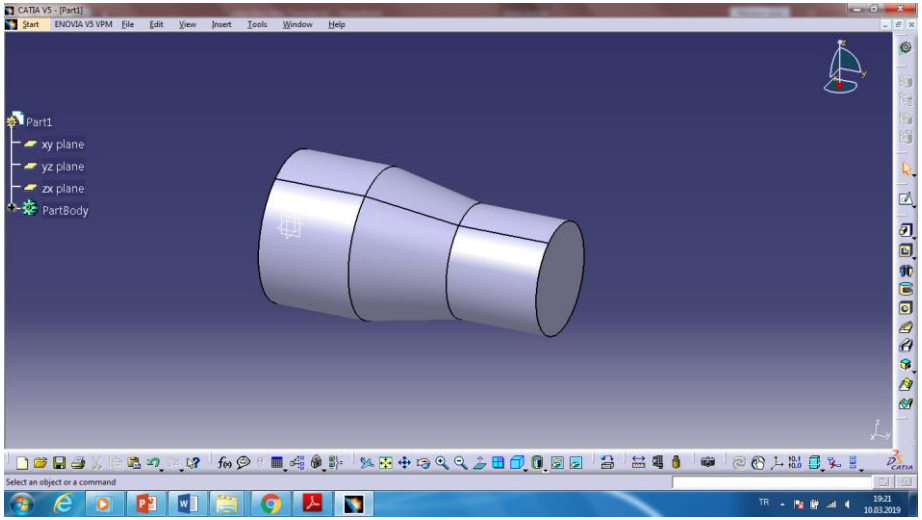
Parça Ölçüleri



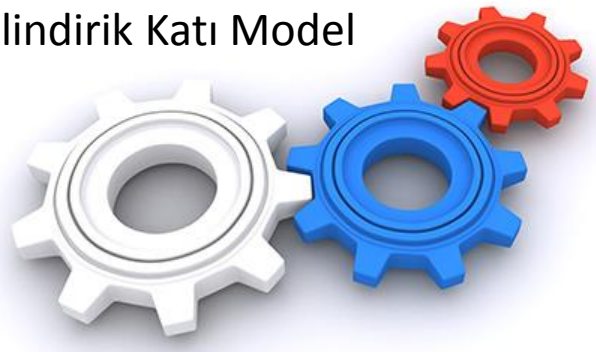
b) Shaft (Döndürme) Yöntemi ile silindirik katı model haline getirilir



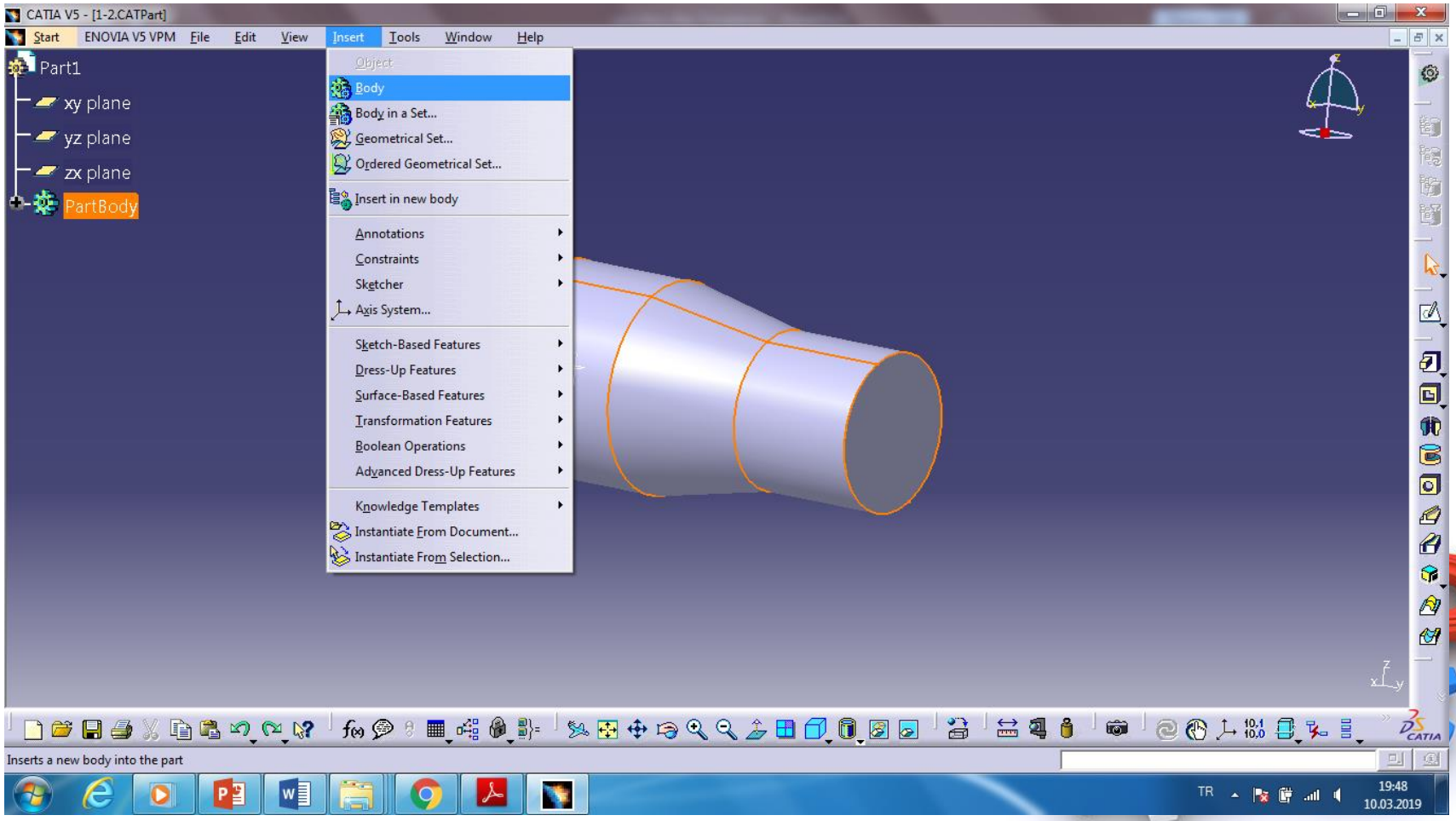
Shaft komutu Uygulanmış hali



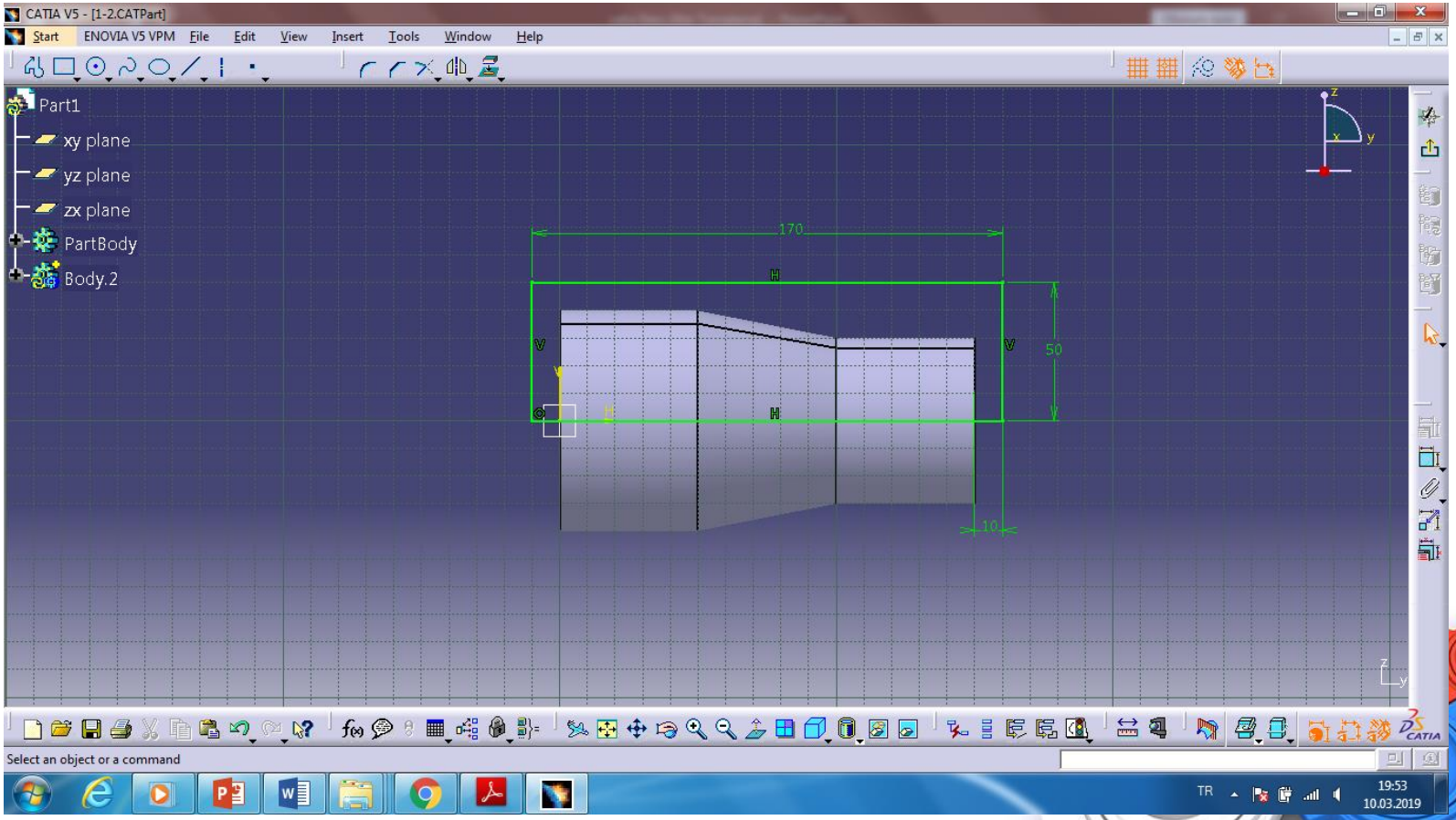
Silindirik Katı Model



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

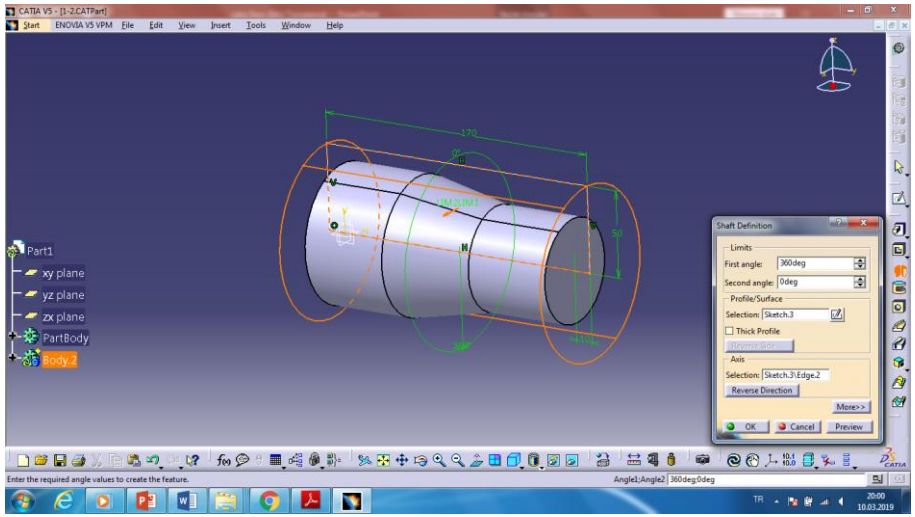


d) Unsur ağacı üzerinden yeni eklenen body2 seçilir ve kütük (Stock) hali Eklenir (yz Plane seçlerek yeni skech açılır ve bu plane üzerine Ø 100 x 170 Kütük çizilir)

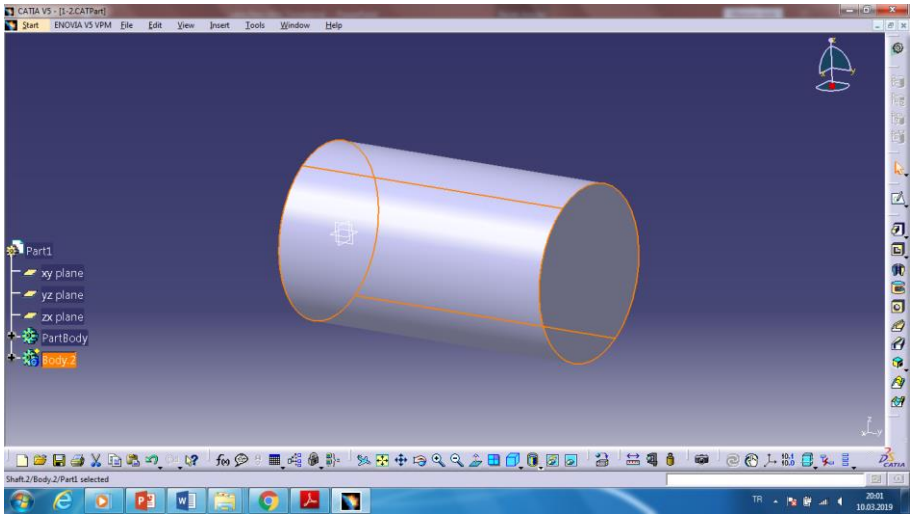


Skech düzleminde kütün çizilmiş hali

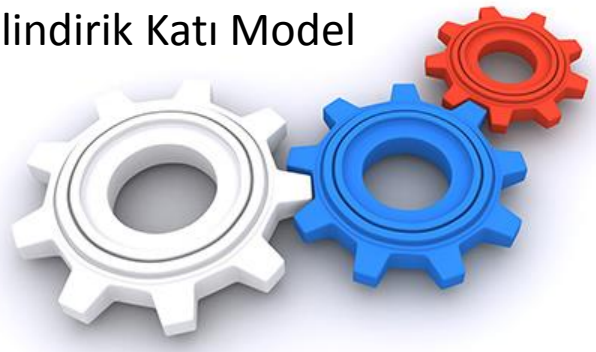
e)Shaft (Döndürme) Yöntemi ile kütük de silindirik katı model haline getirilir



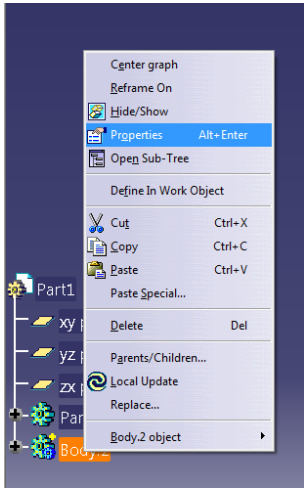
Shaft komutu Uygulanmış hali

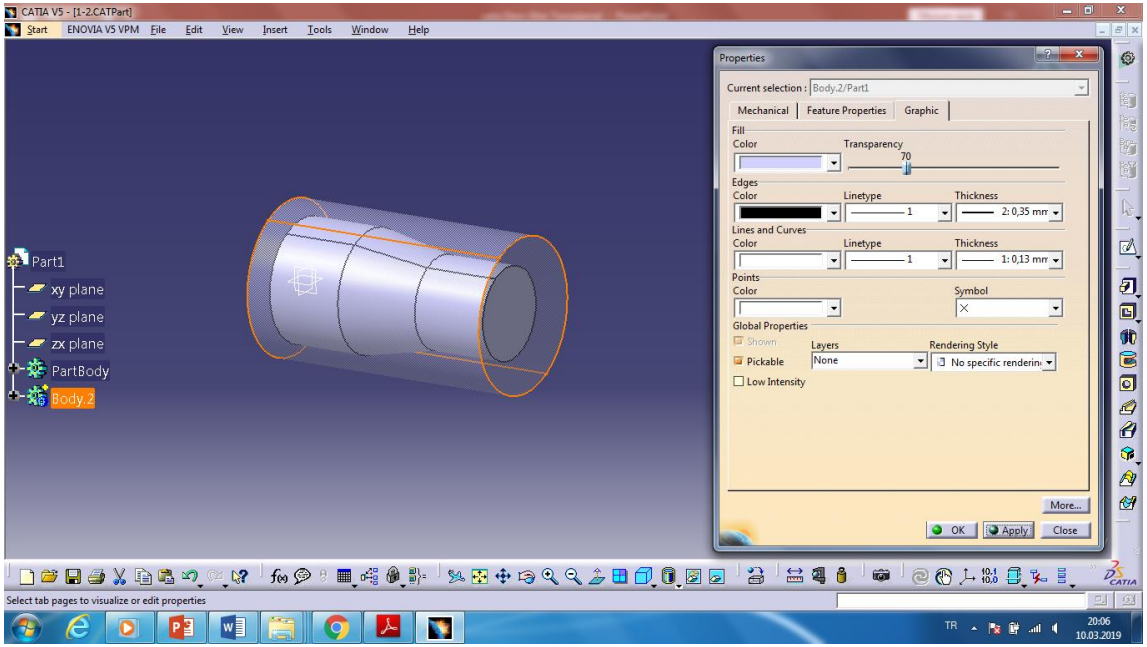


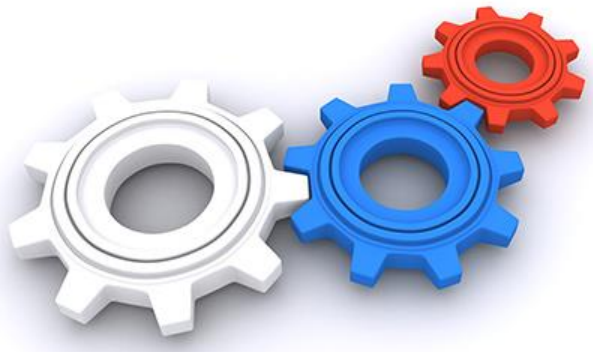
Silindirik Katı Model



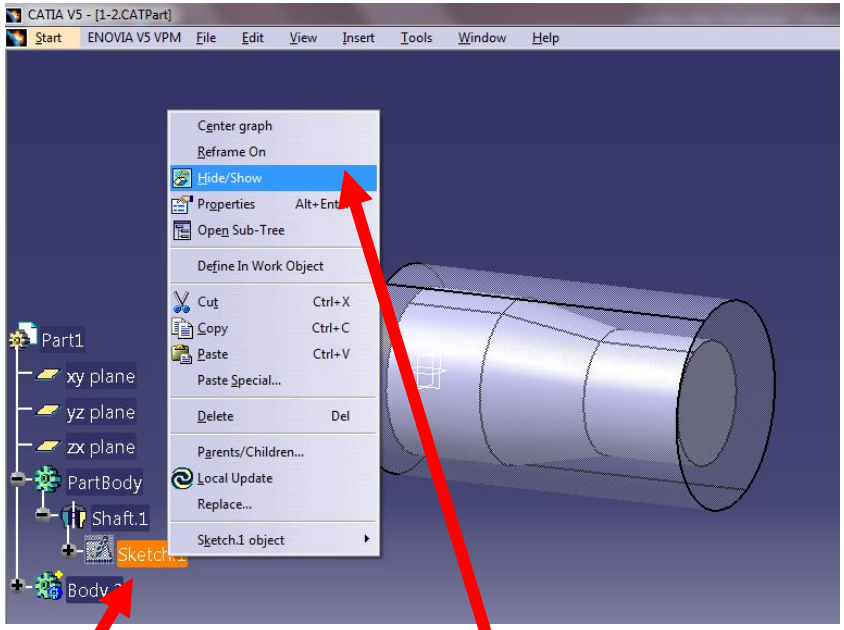
f) Body2 üzerinde sağ tıklanarak properties (özelliklere) girilir ve kütüğün Transparency (Saydamlık) değeri düşrülür

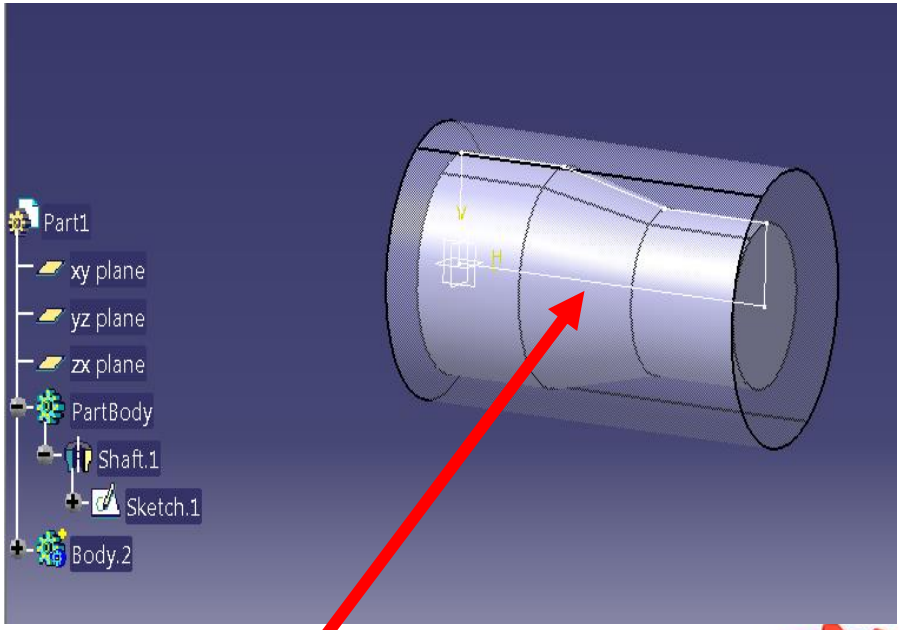




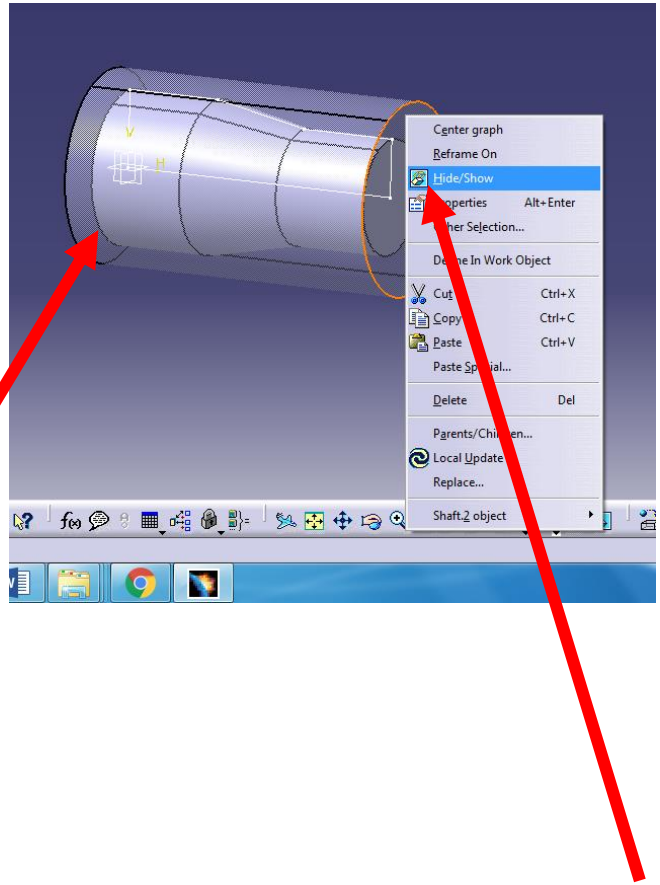


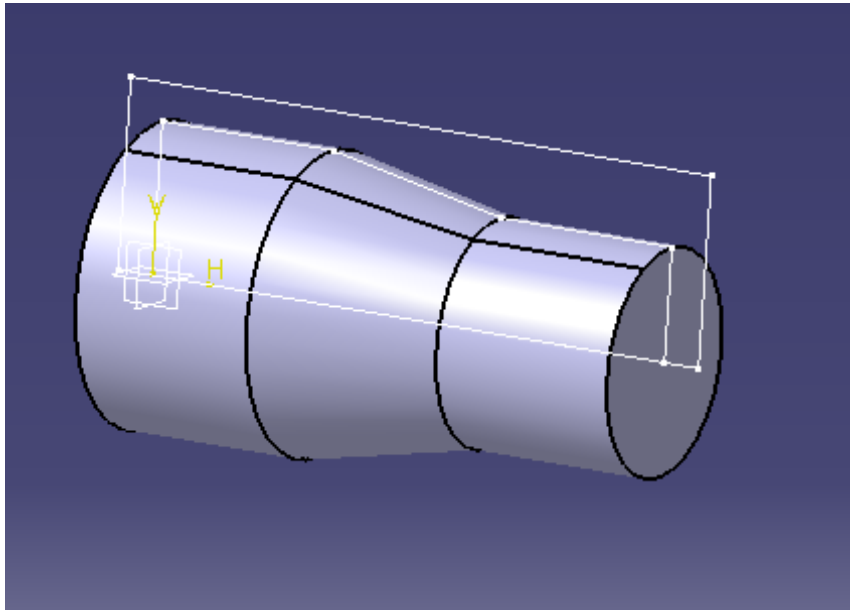
g) PartBody üzerindeki skech sağ tıklanarak hide Show tıklanır ve orijinal parçanın skech'i görnür hale getirilir (özelliklere) girilir ve kütüğün Transparency (Saydamlık) değeri düşrülür

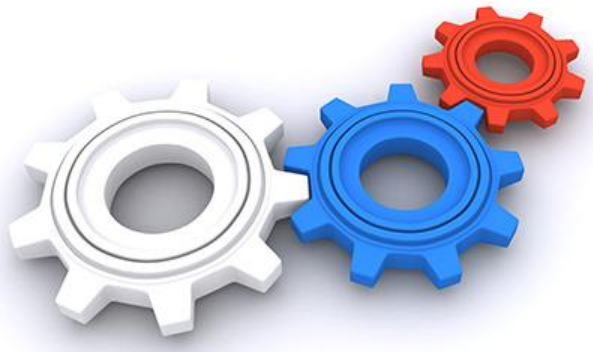




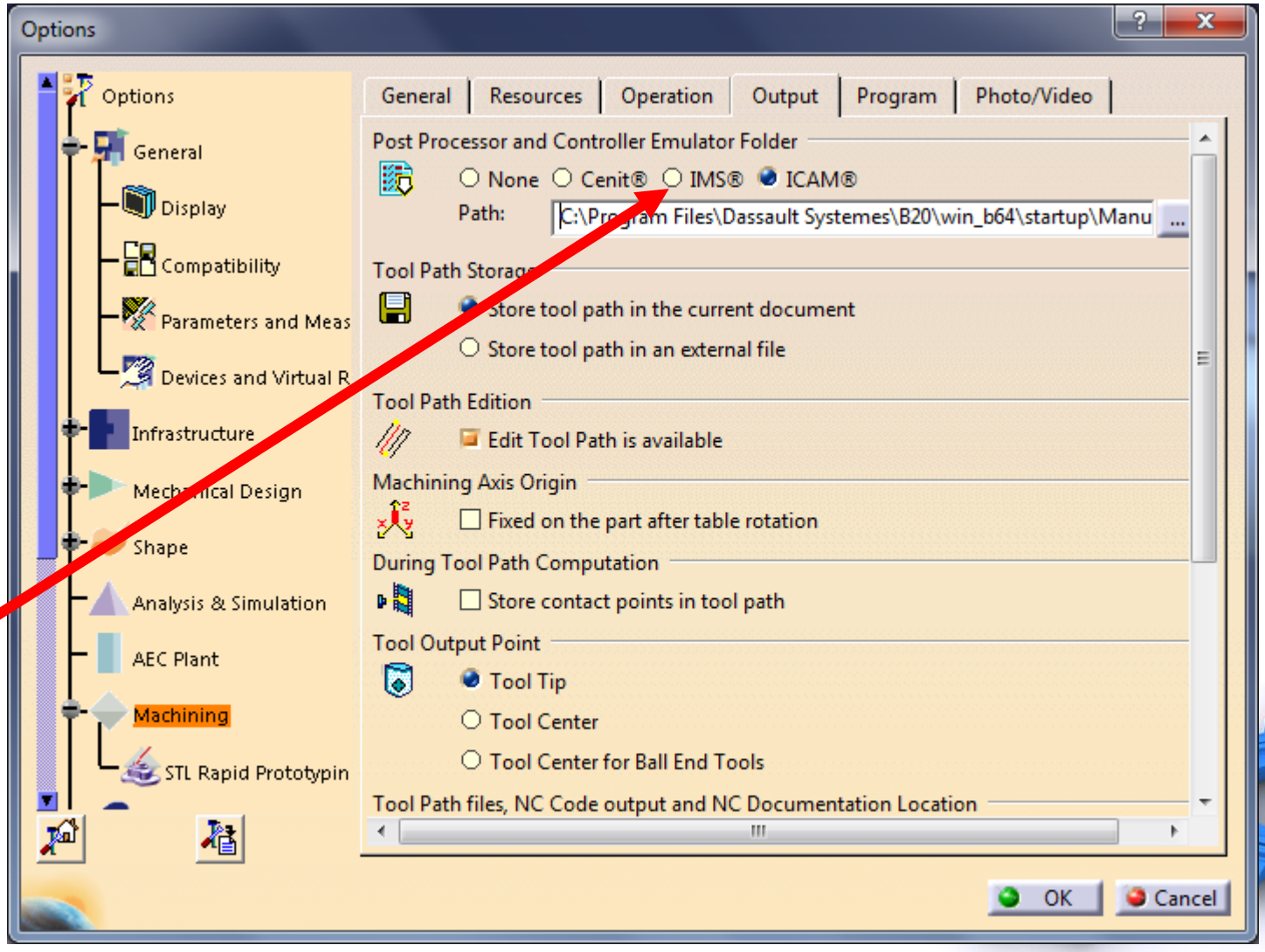
h) Kütük üzerine sağ tıklanarak hide Show tıklanır skech görnü kütük görmez hale getirilir





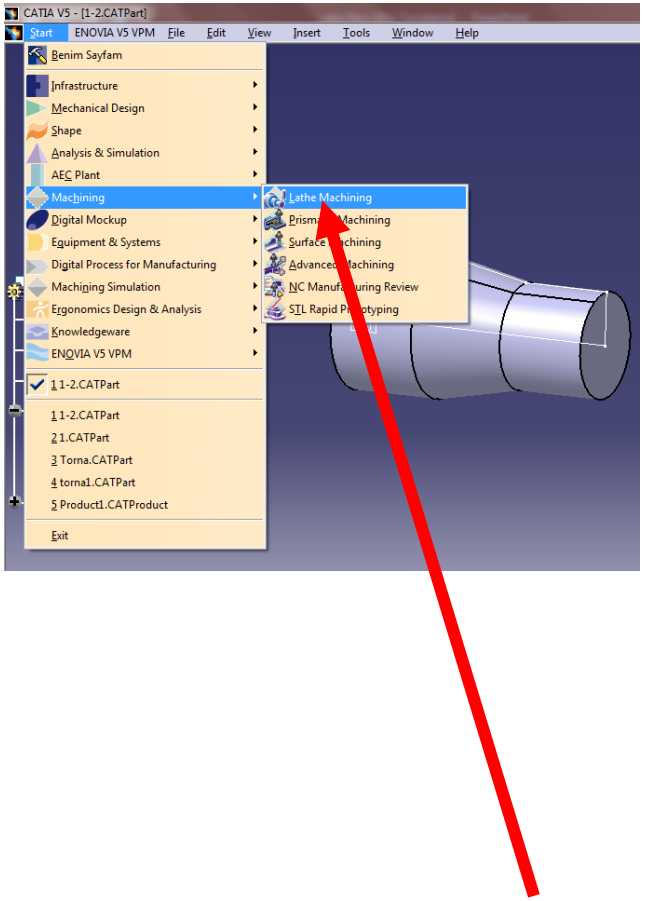


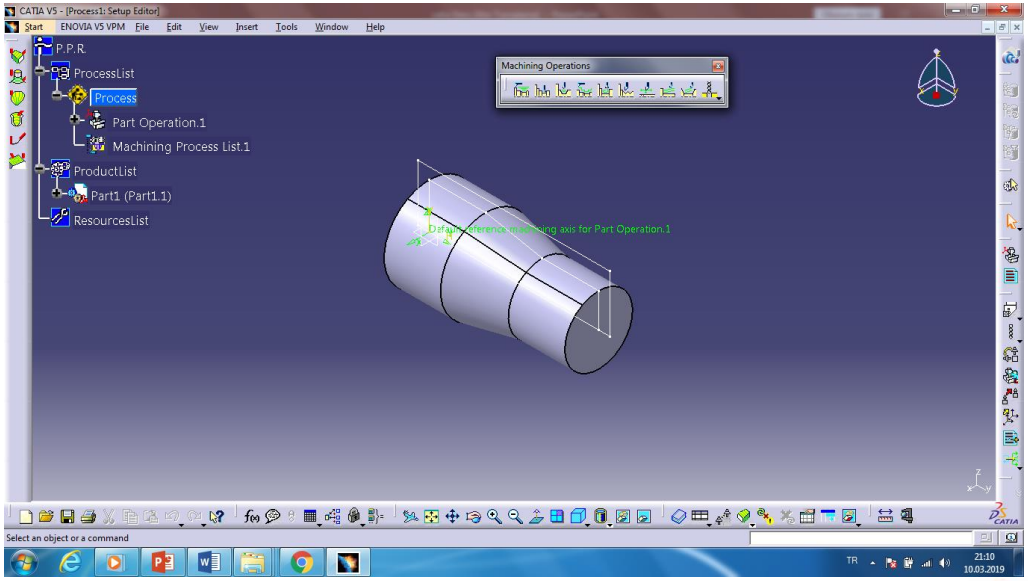
i) Tools Menusu/Options/Machining/Output a girilir **IMS** İşaretlenip ok tıklanır

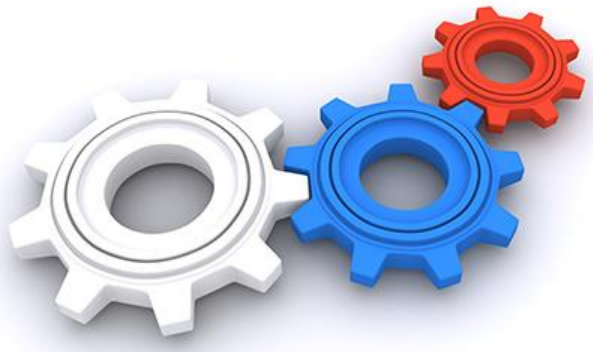


2- Lathe (Torna) Kısmı

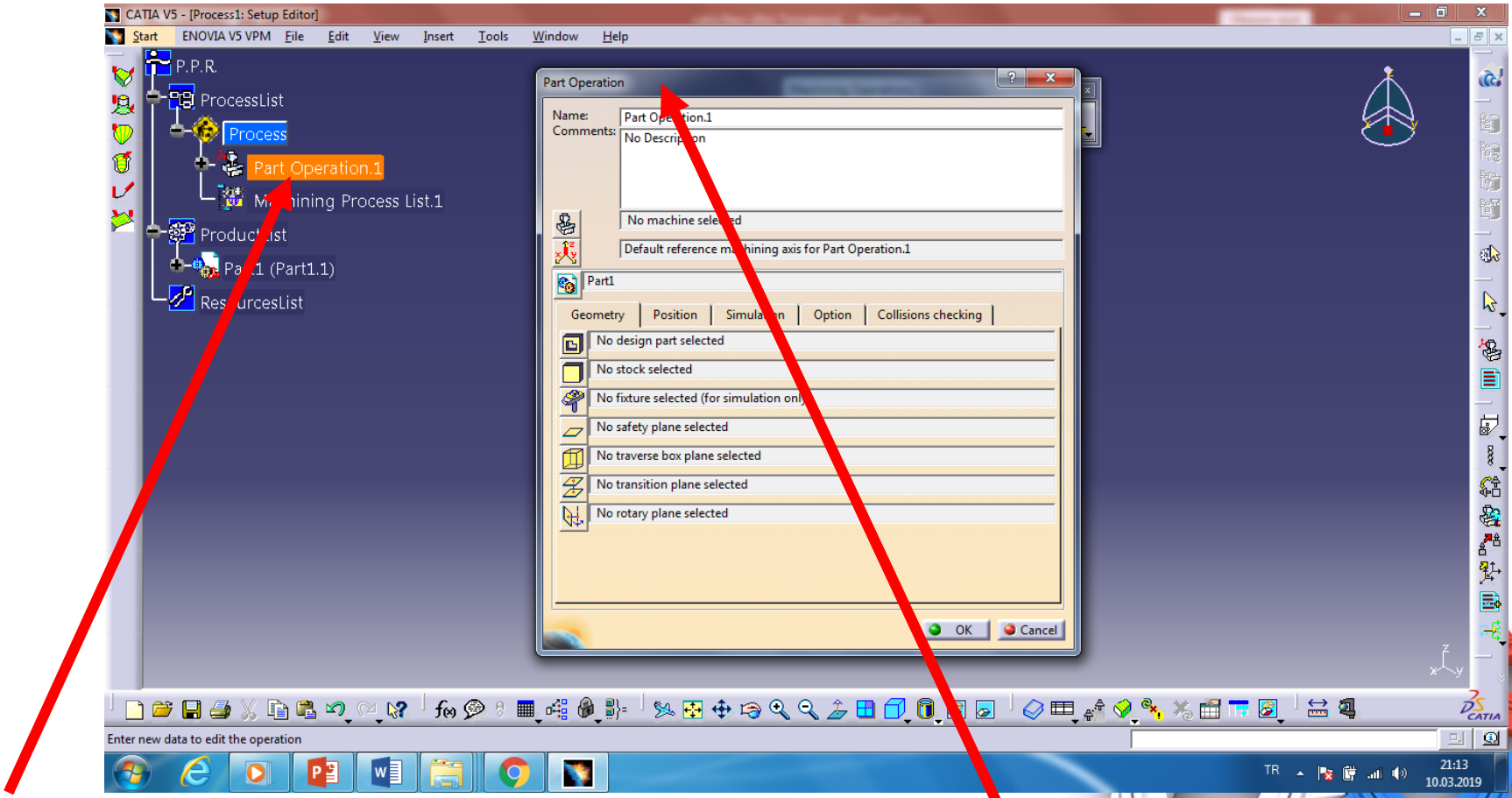
a) Start Menusu/Machining/Lathe Machining e girilir







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



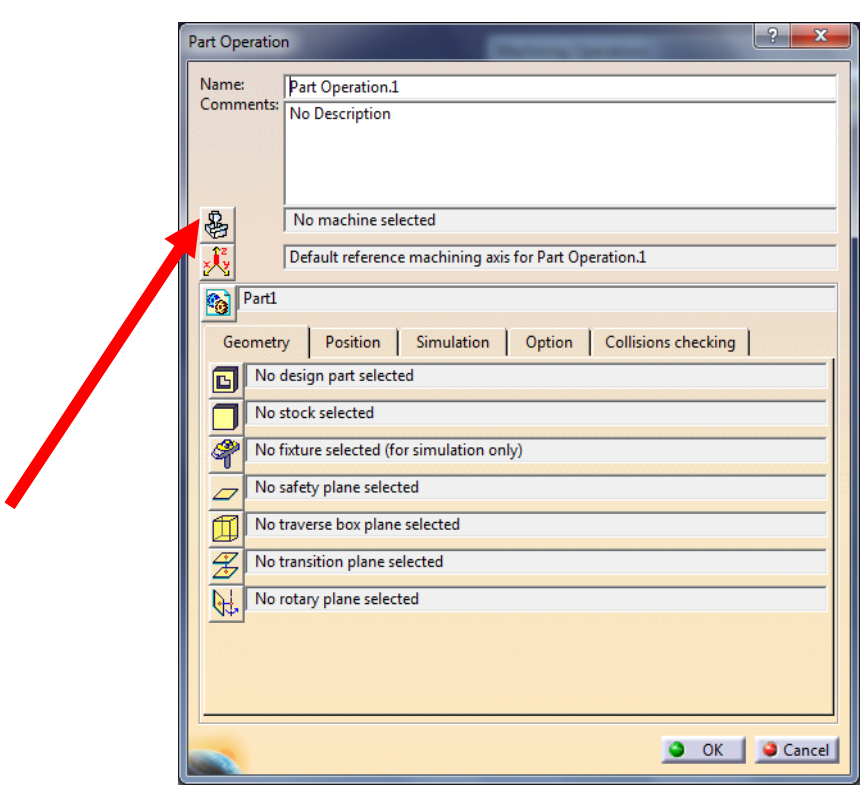
c) Machine butonuna tıklanır Numeric Kontrol kısmınave iso ve fanuc kodları için

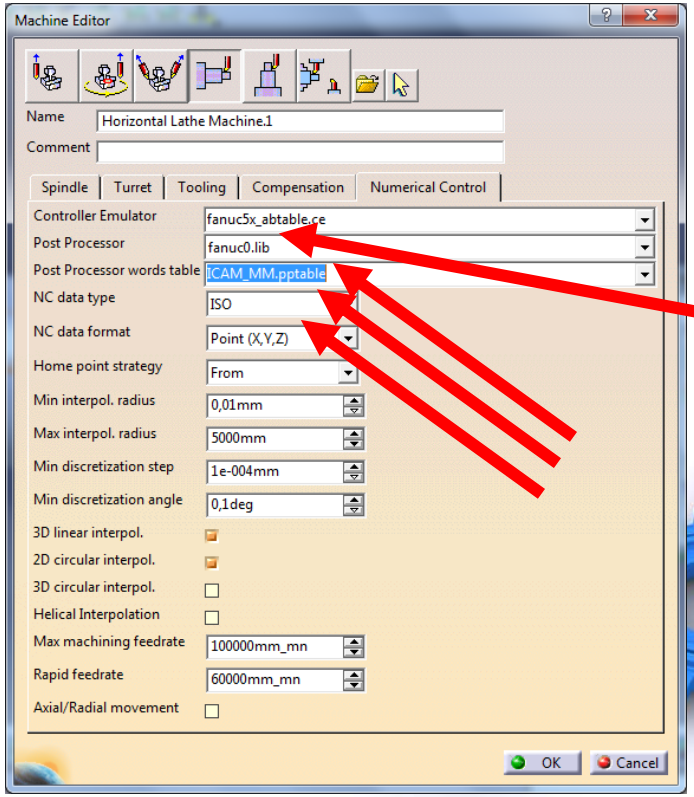
Controler emulator : fanuc5x_abtable.ce

Post Processor : Fanuc0.lib

Post Processor words table : ICAM_MM.pptable

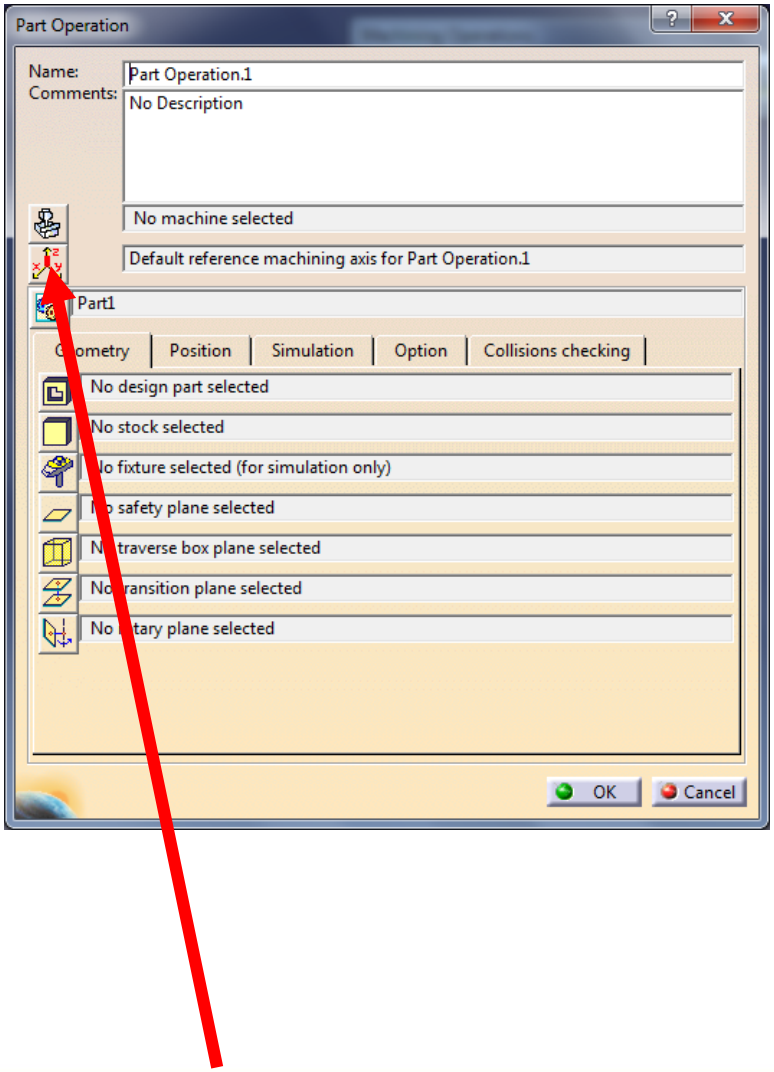
Nc data type : ISO Seçilir

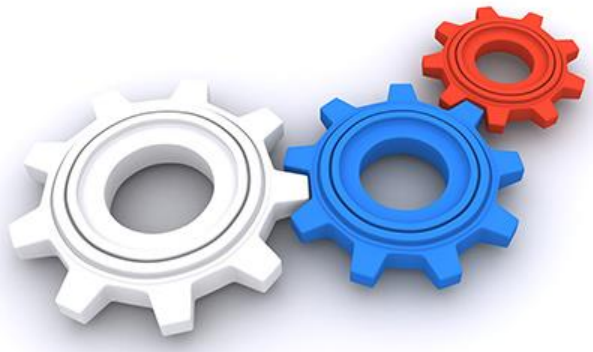


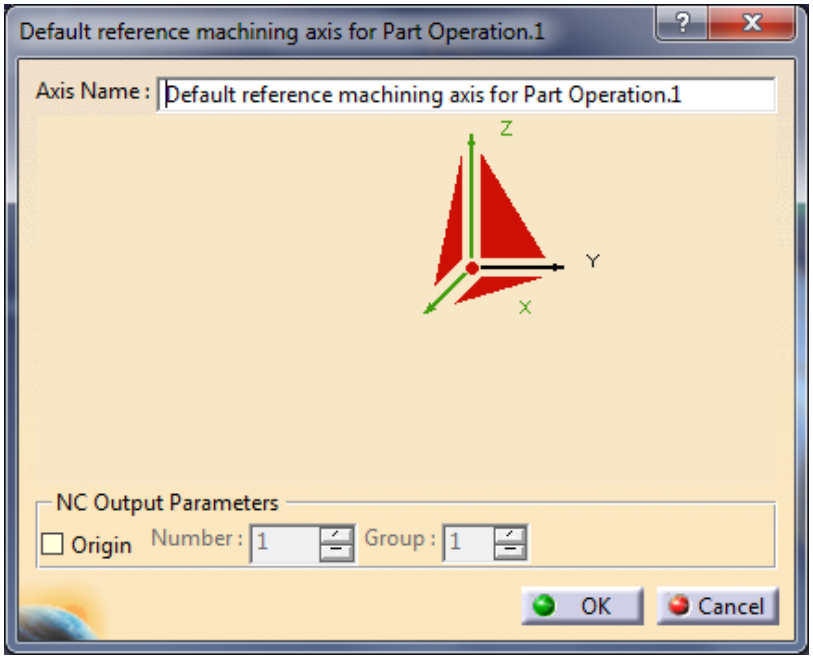


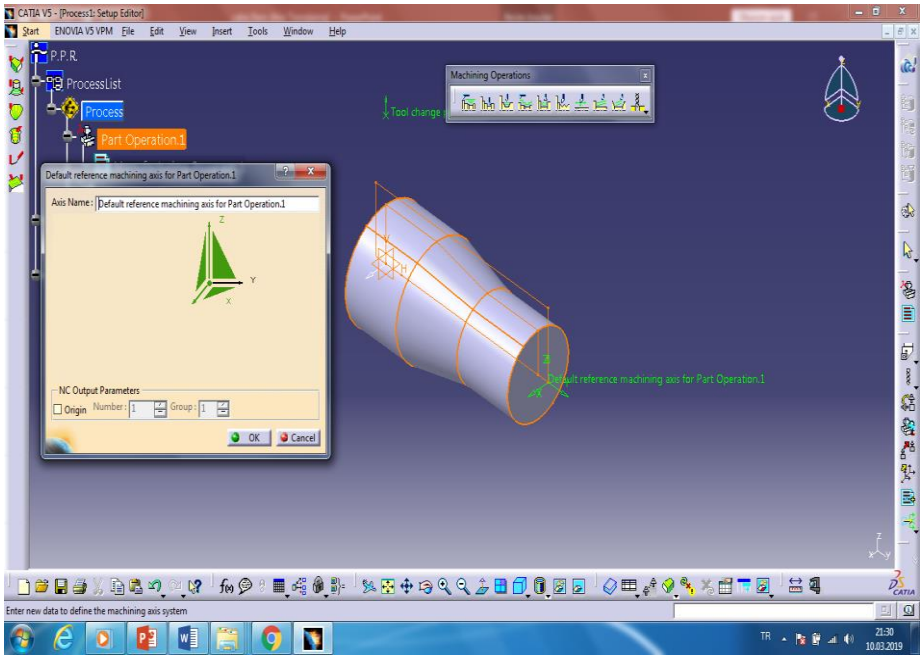
d) Makine eksenlerini tanımlamak için:

Referance Machining Axis System seçilir







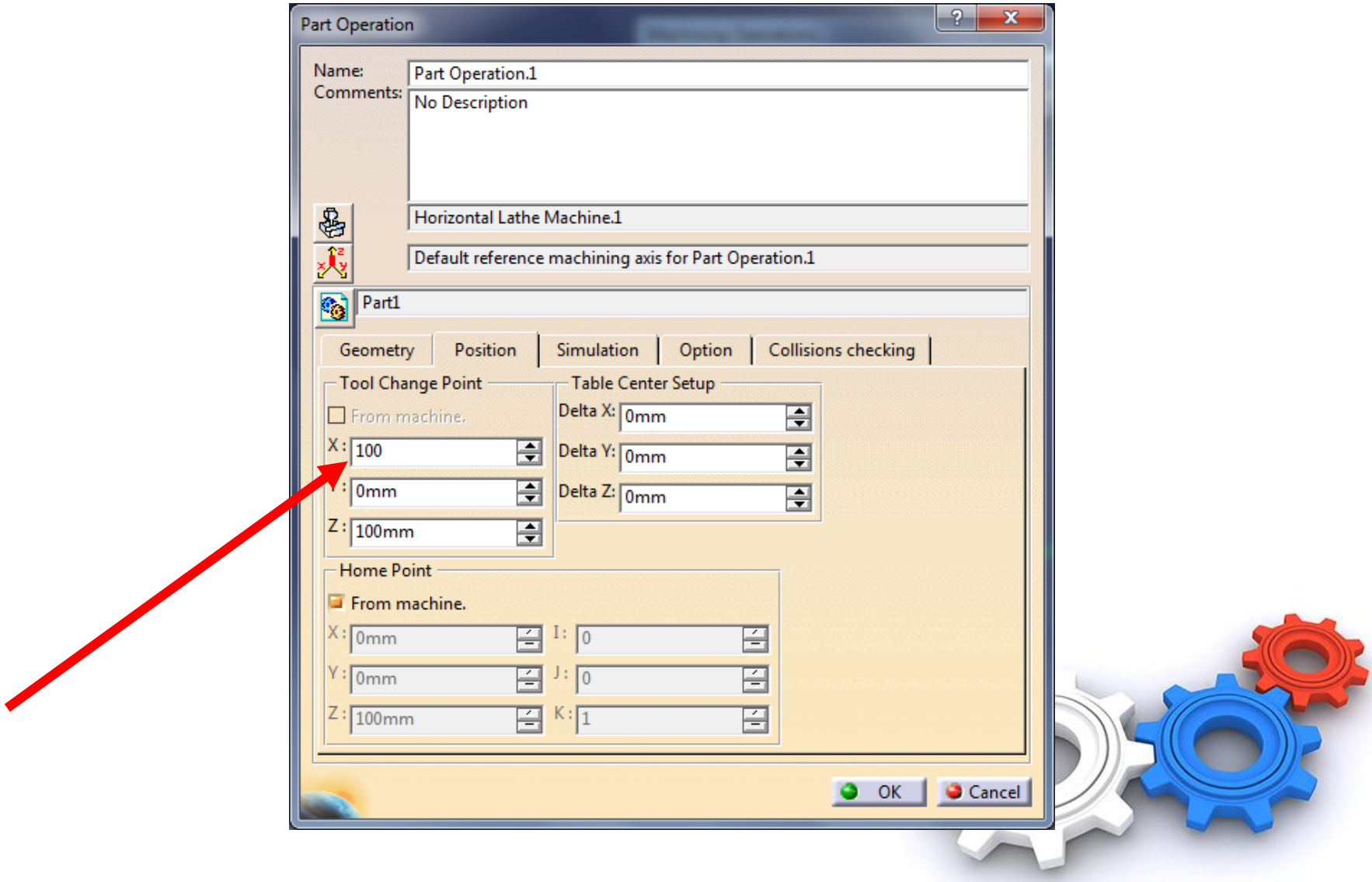


1-Eksenlerin ortasındaki merkez noktası seçilip punta deliği seçilir

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

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

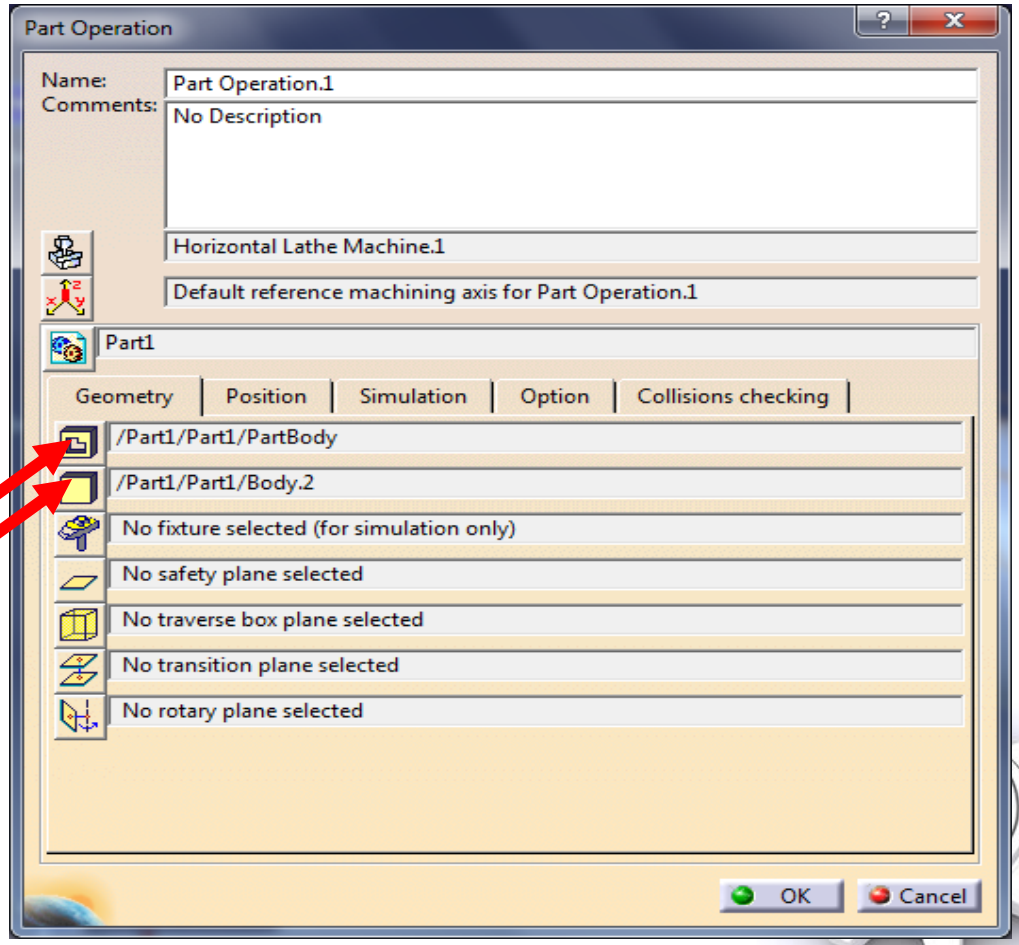
e) Position kısmına girilip x kısmına 100 değeri girilir



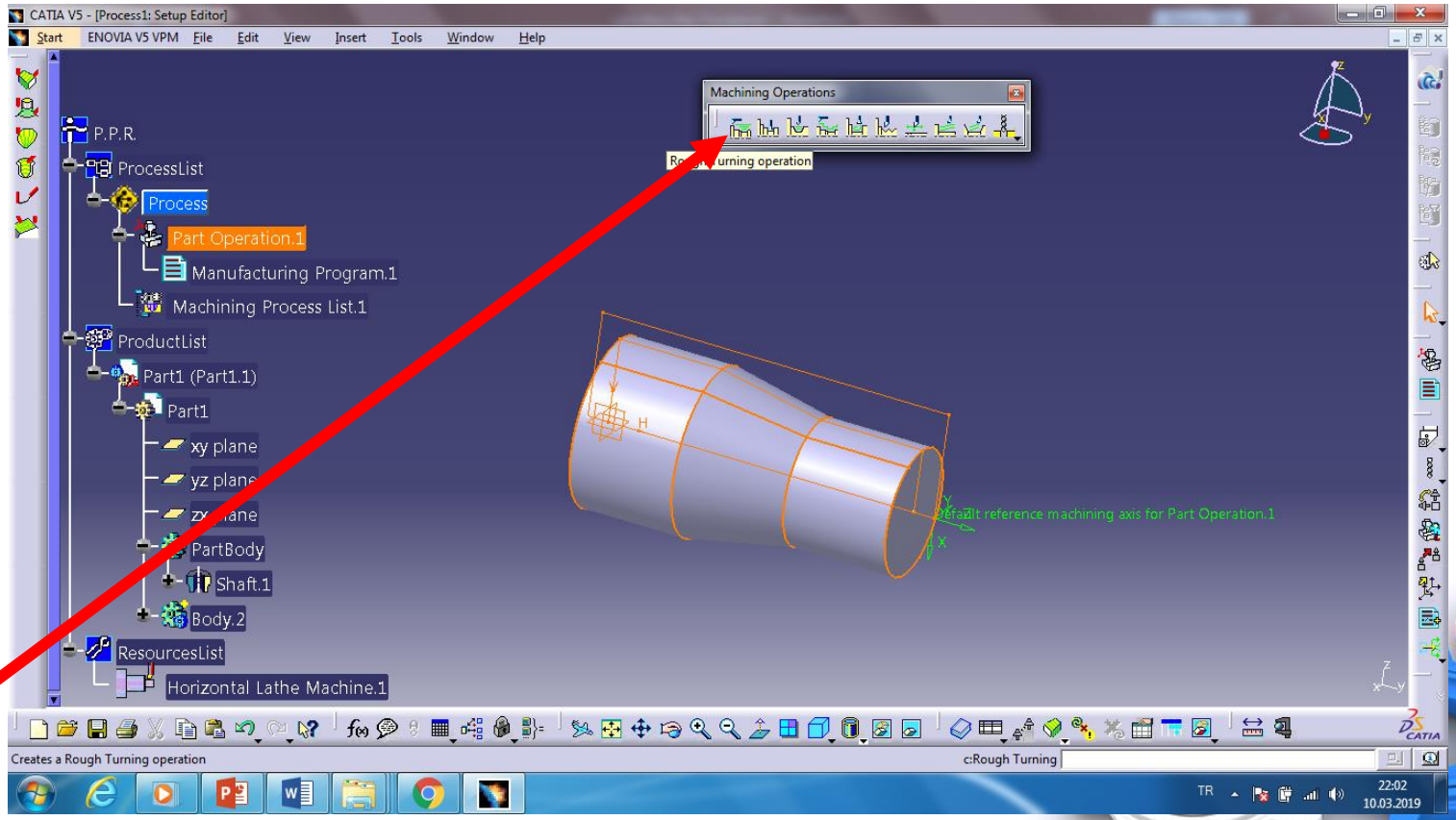
f) Desing part for simulation kısmı tıklanıp orijinal parça seçilir (Üzerindeki çizgiler tıklanır)

Stock kısmı tıklanıp kütük seçilir (Üzerindeki çizgiler tıklanır)

Ok Basılır

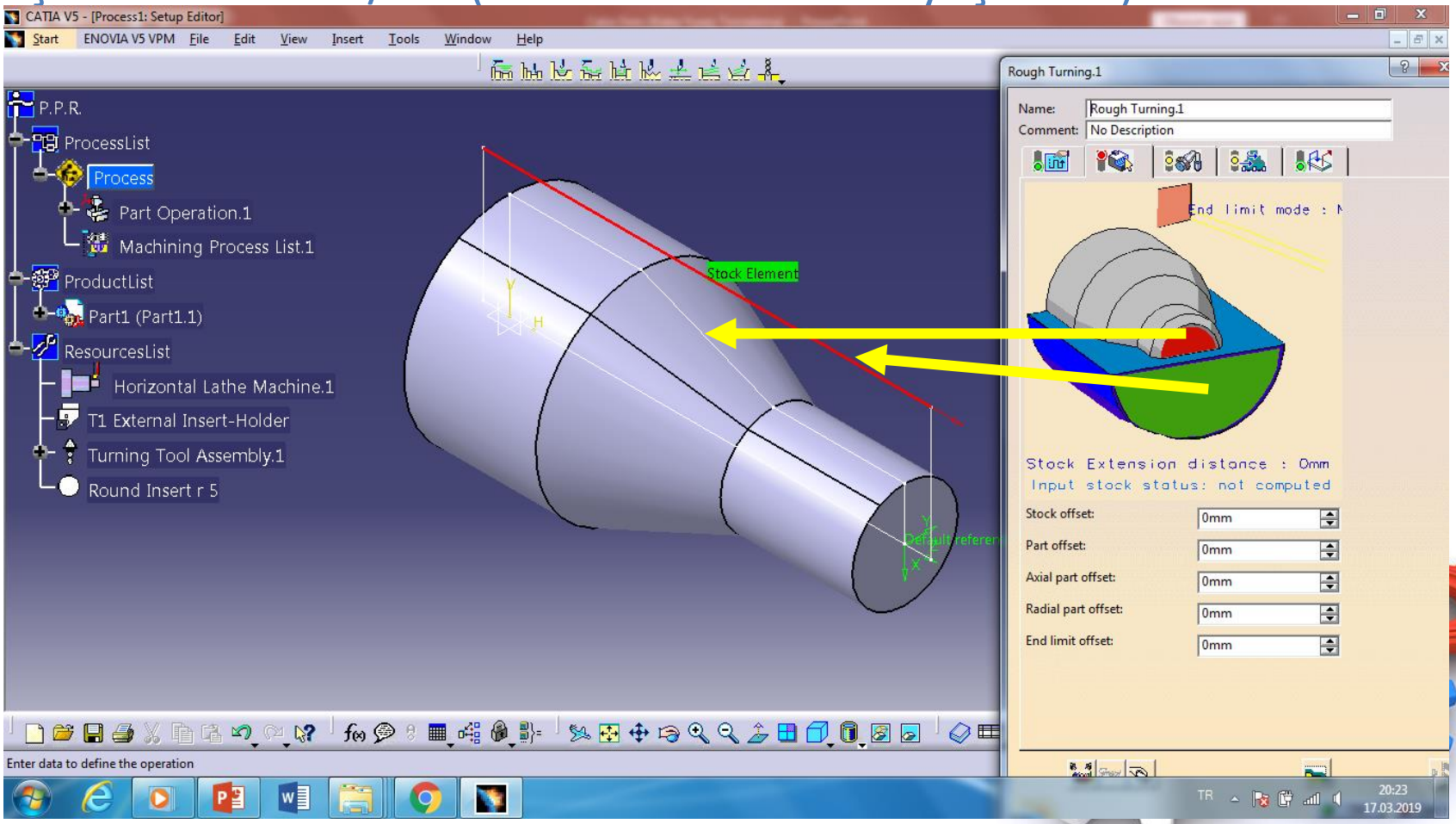


g) Machining Operation araç çubuğundan / Rough Turning Operation

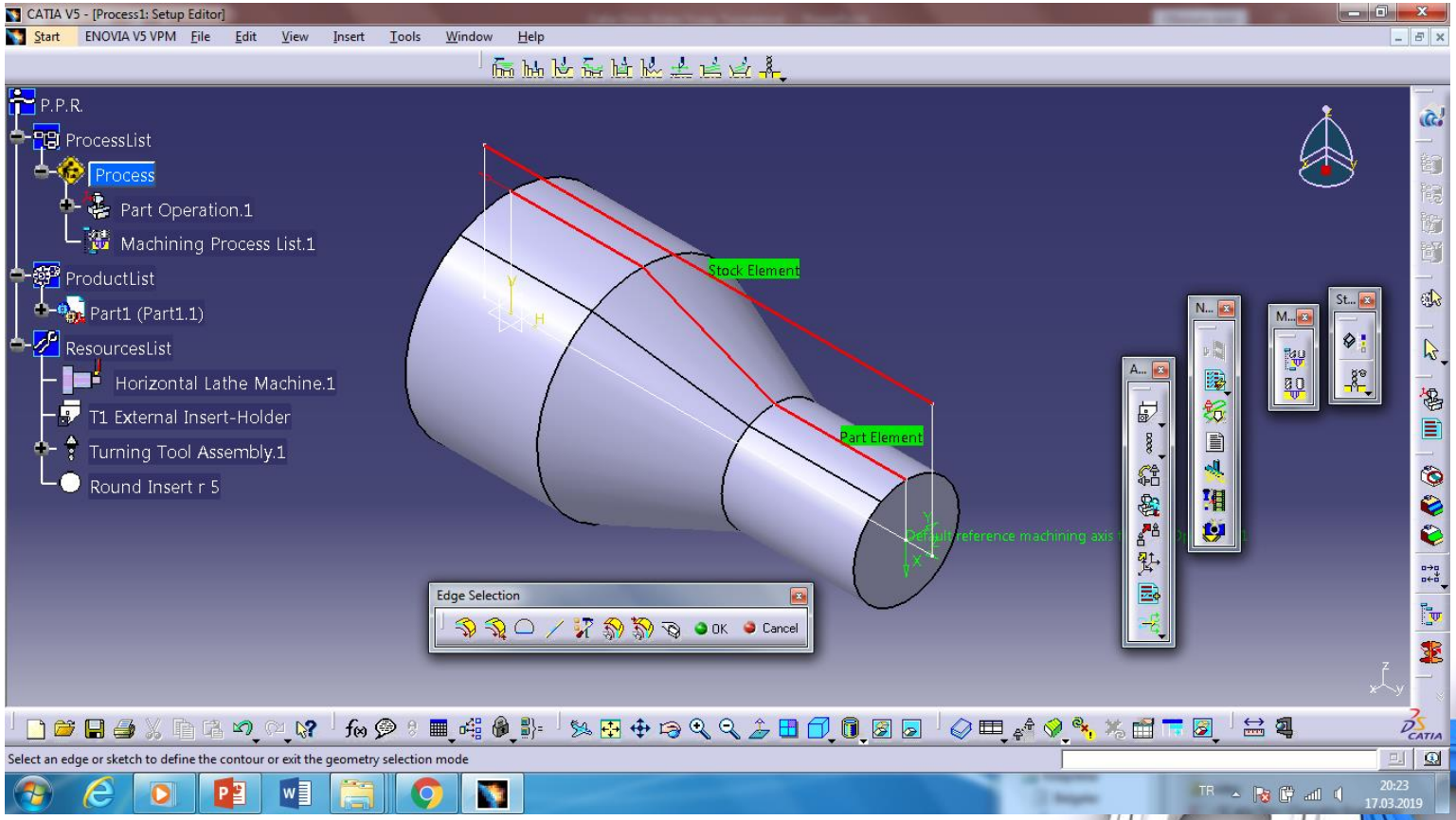


h) - Açılan pencereden kütüğün anlı seçilip ekrandaki kütüğün dış çizgizi / ok (Penceredeki kırmız yeşil olur)

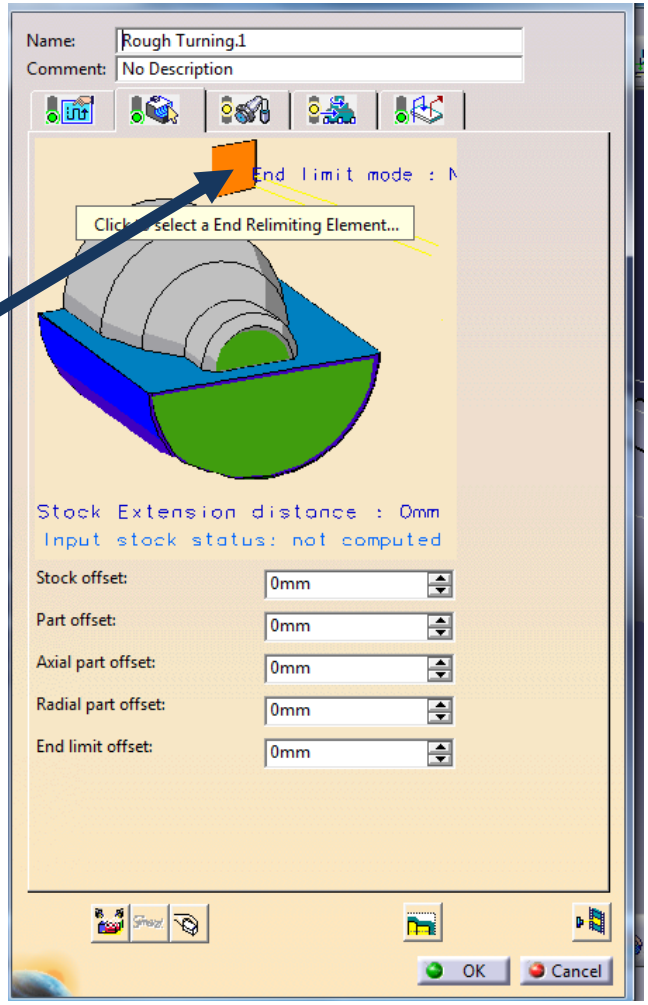
- Açılan pencereden orijinal parçanın anlı seçilip ekrandaki parçanın kenarları / ok (Penceredeki kırmız yeşil olur)

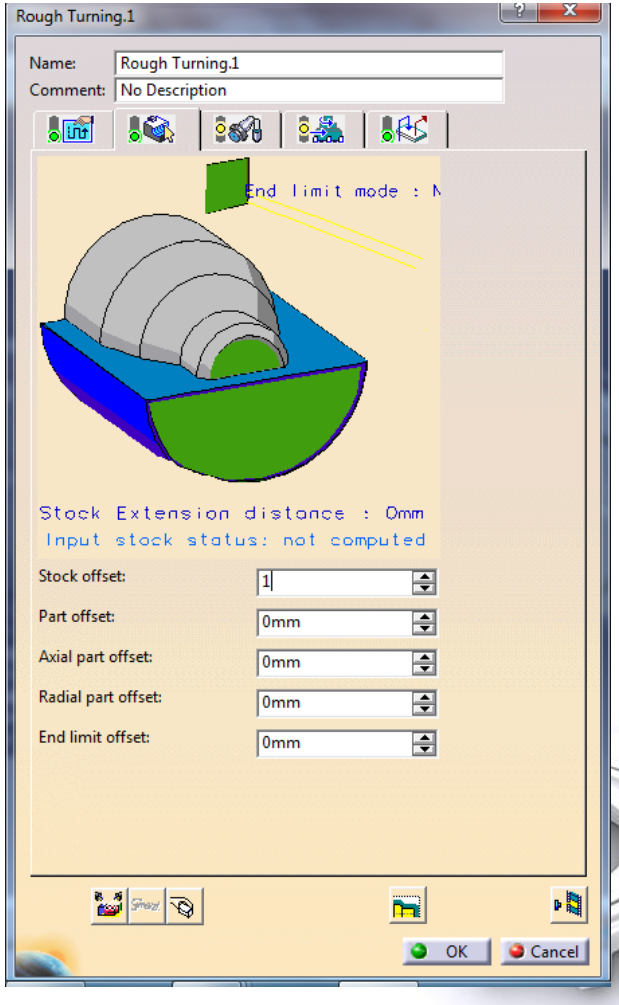


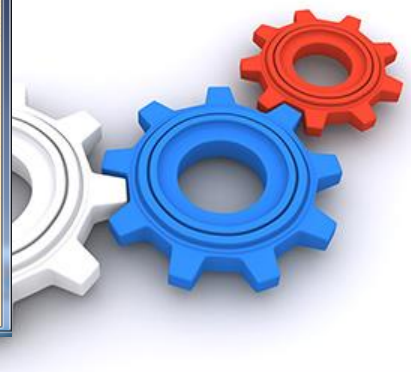
Seçimden sonra bu şekilde görünür



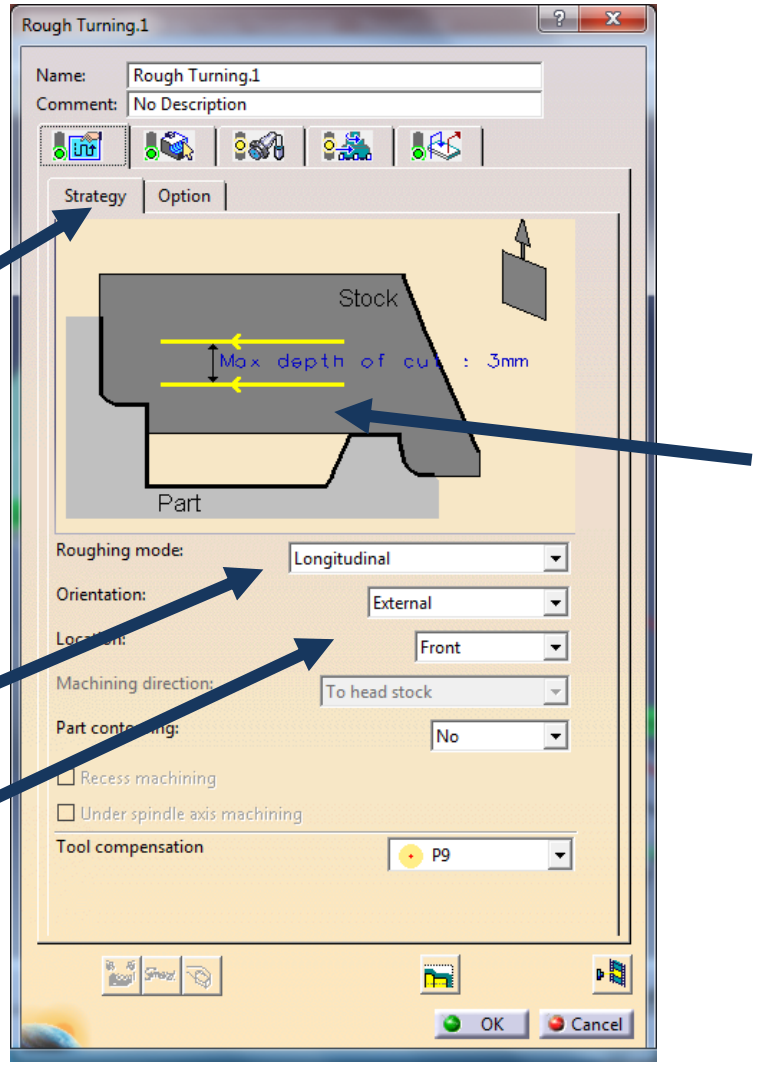
i) End Limit kısmı tıklanıp parçanın arka yüzeyi tıklanır
Stock ofset kısmına 1 girilir





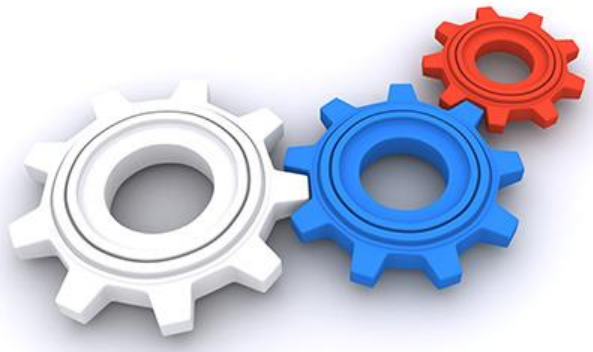


j) 1 numaralı sekme tıklanıp routghing mode kısmından / Longutudinal orientation kısmından / External seçilir



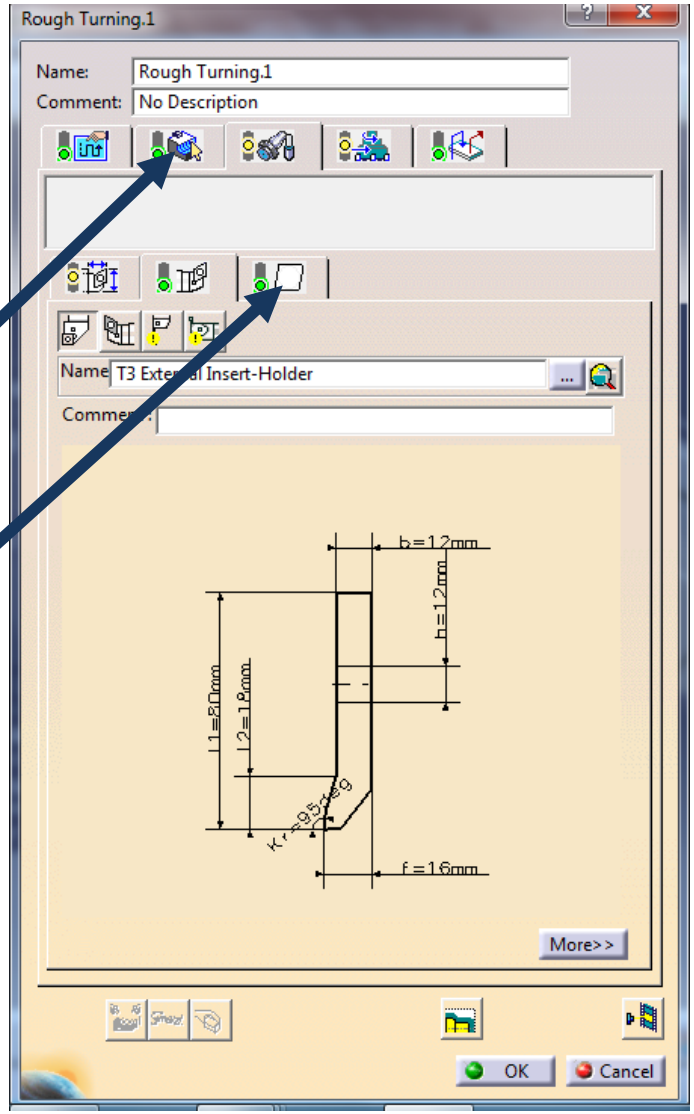
1

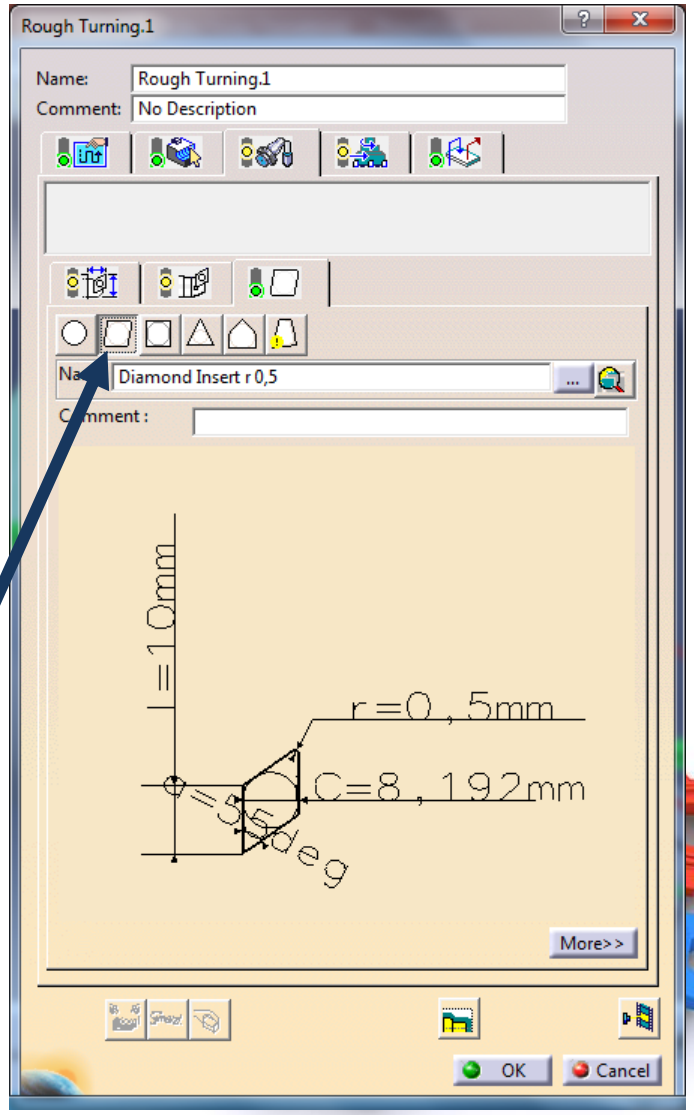
Max Depth of cut tıklanıp bir seferde alınacak talaş miktarı yazılır



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

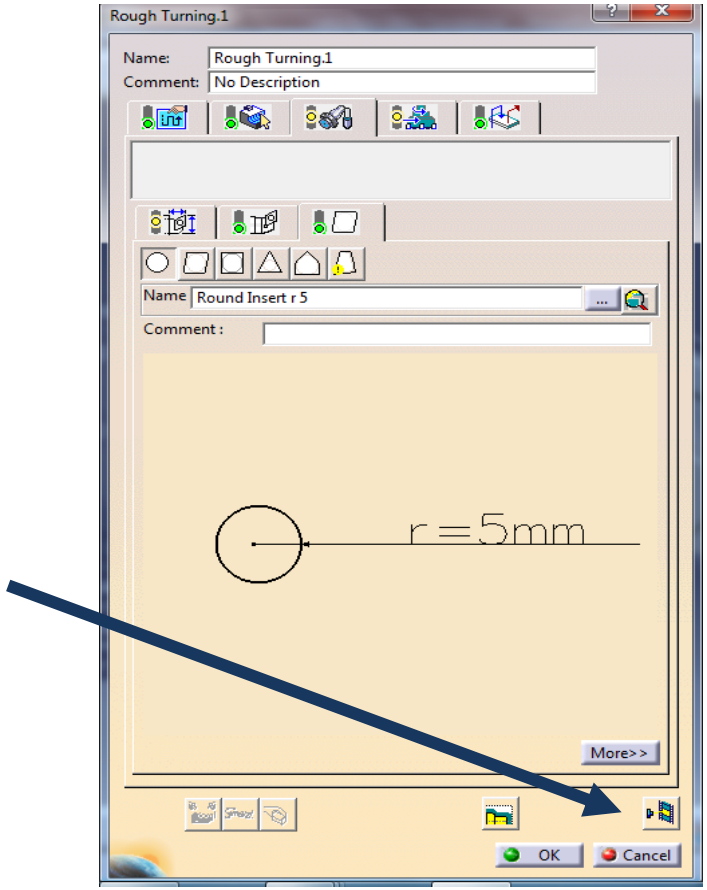
2

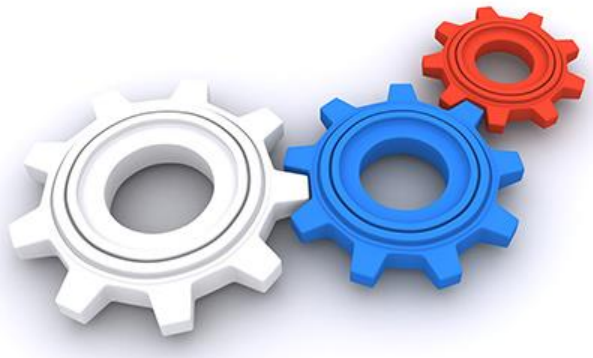




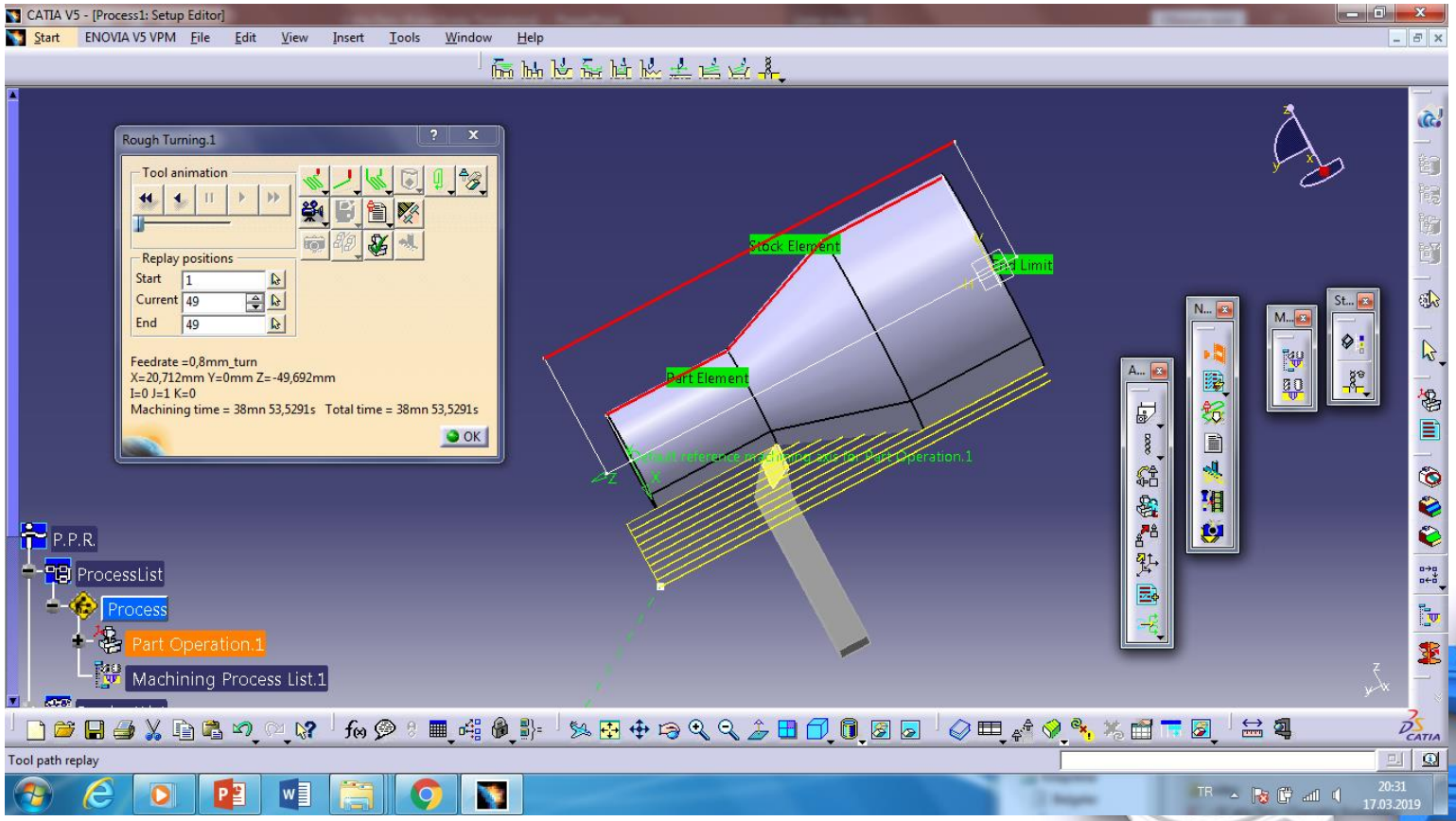
3- Simulasyon

a) Rought turning penceresindeki Tool Path Replay butonuna tıklanır

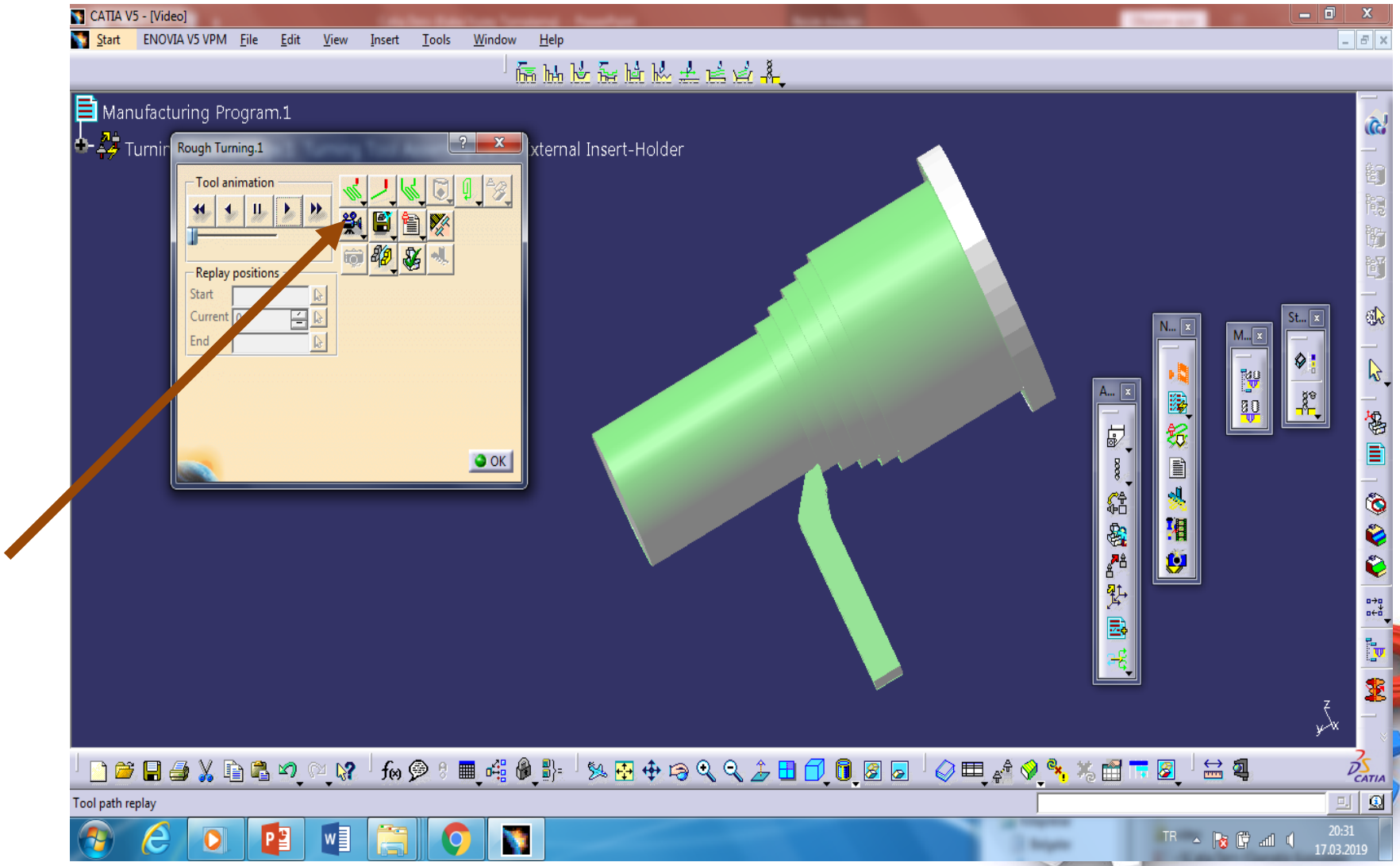




b) Açılan simulasyn penceresindeki Backward Replay ve Forward Replay (F6-F7) butonuna tıklanarak simülasyon izlenir

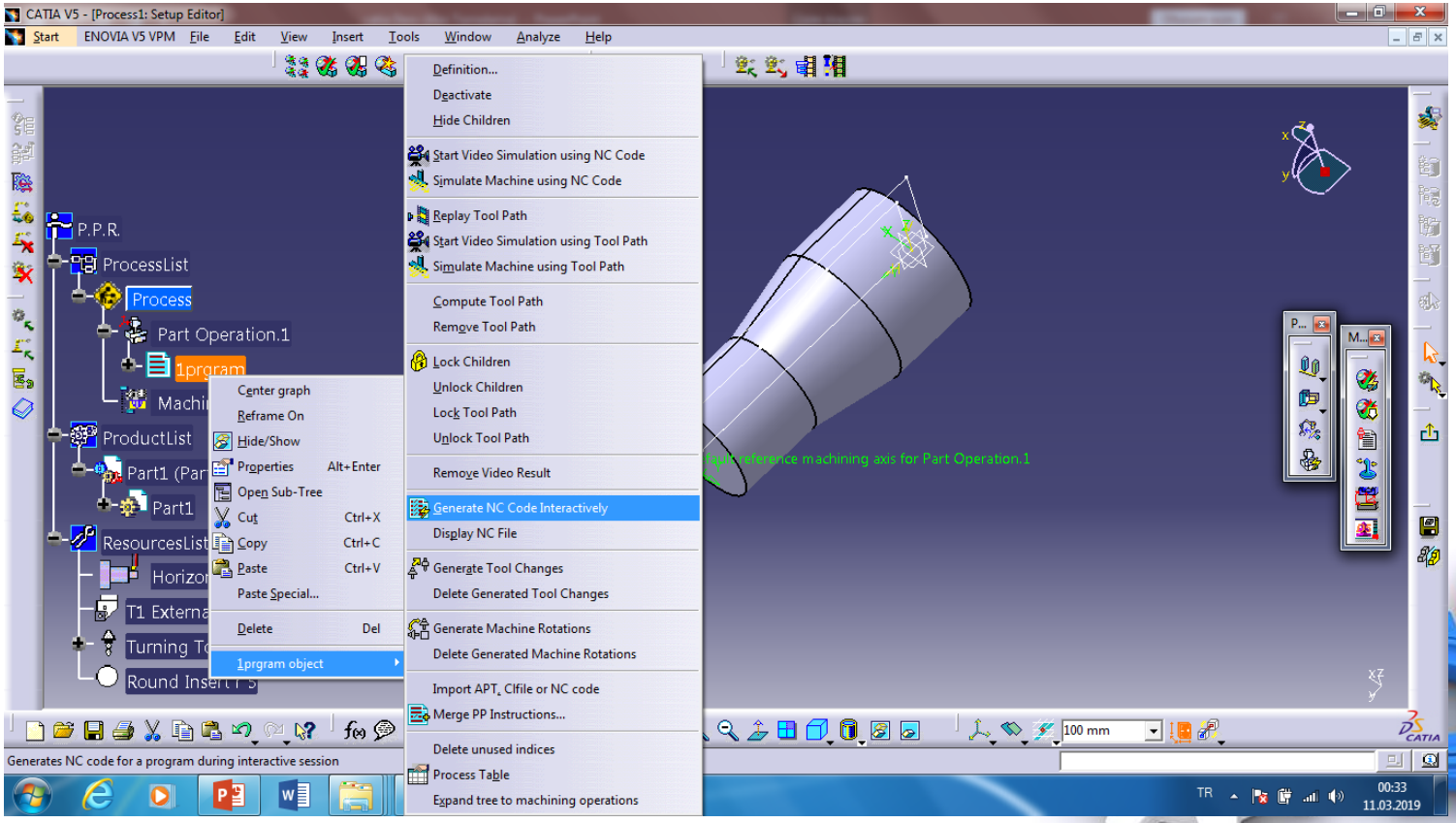


c) Kamera butonu tıklanarak tam simülasyon izlenebilir

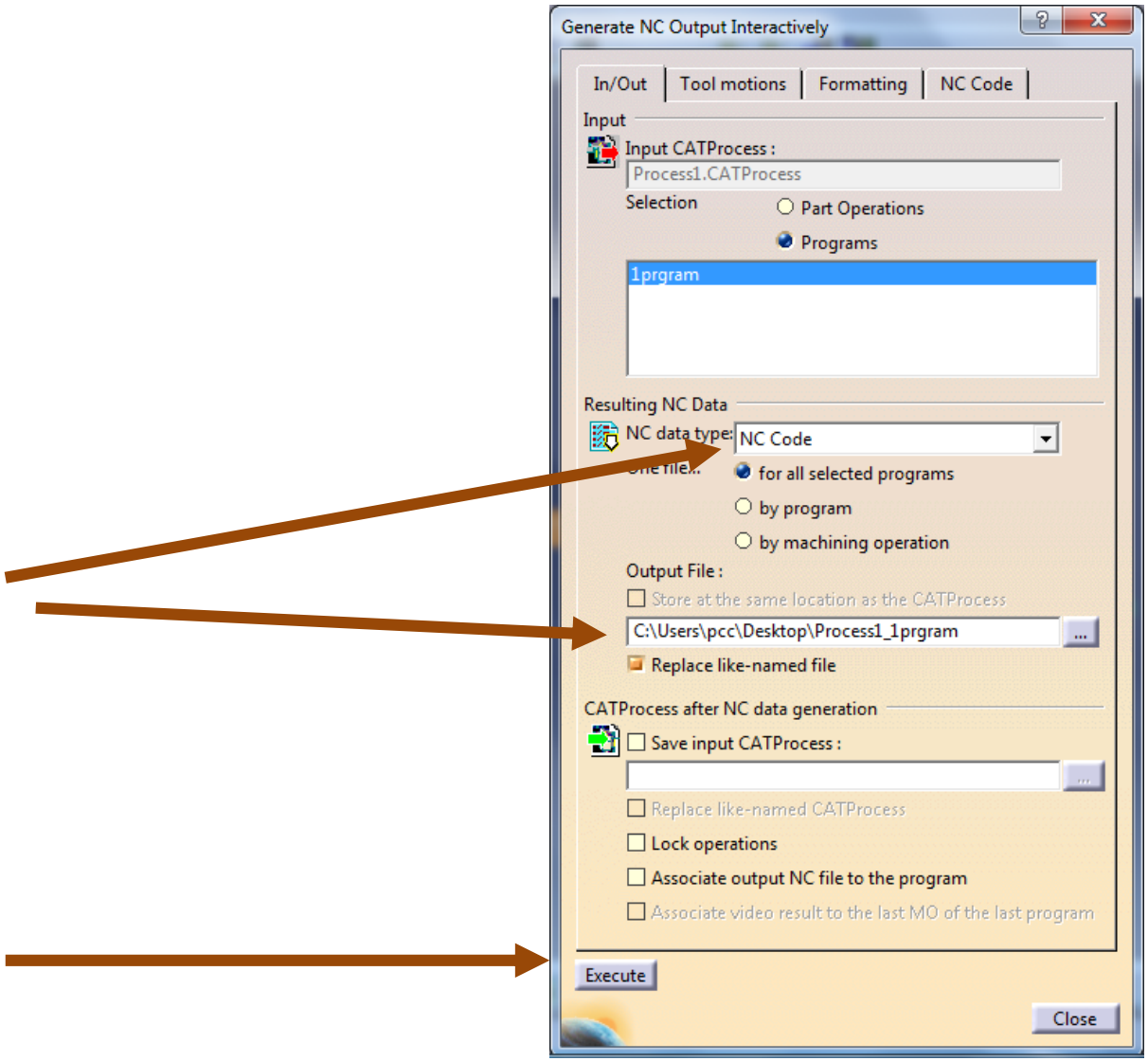


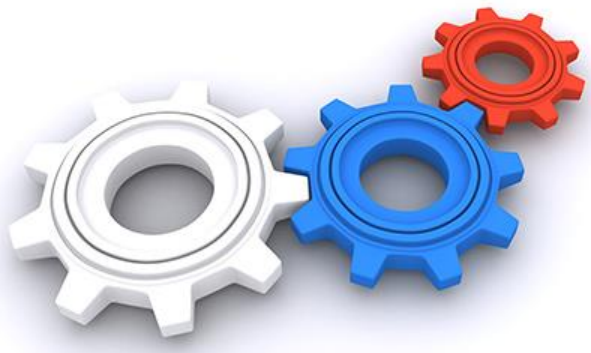
4- NC Kodu Üretme

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

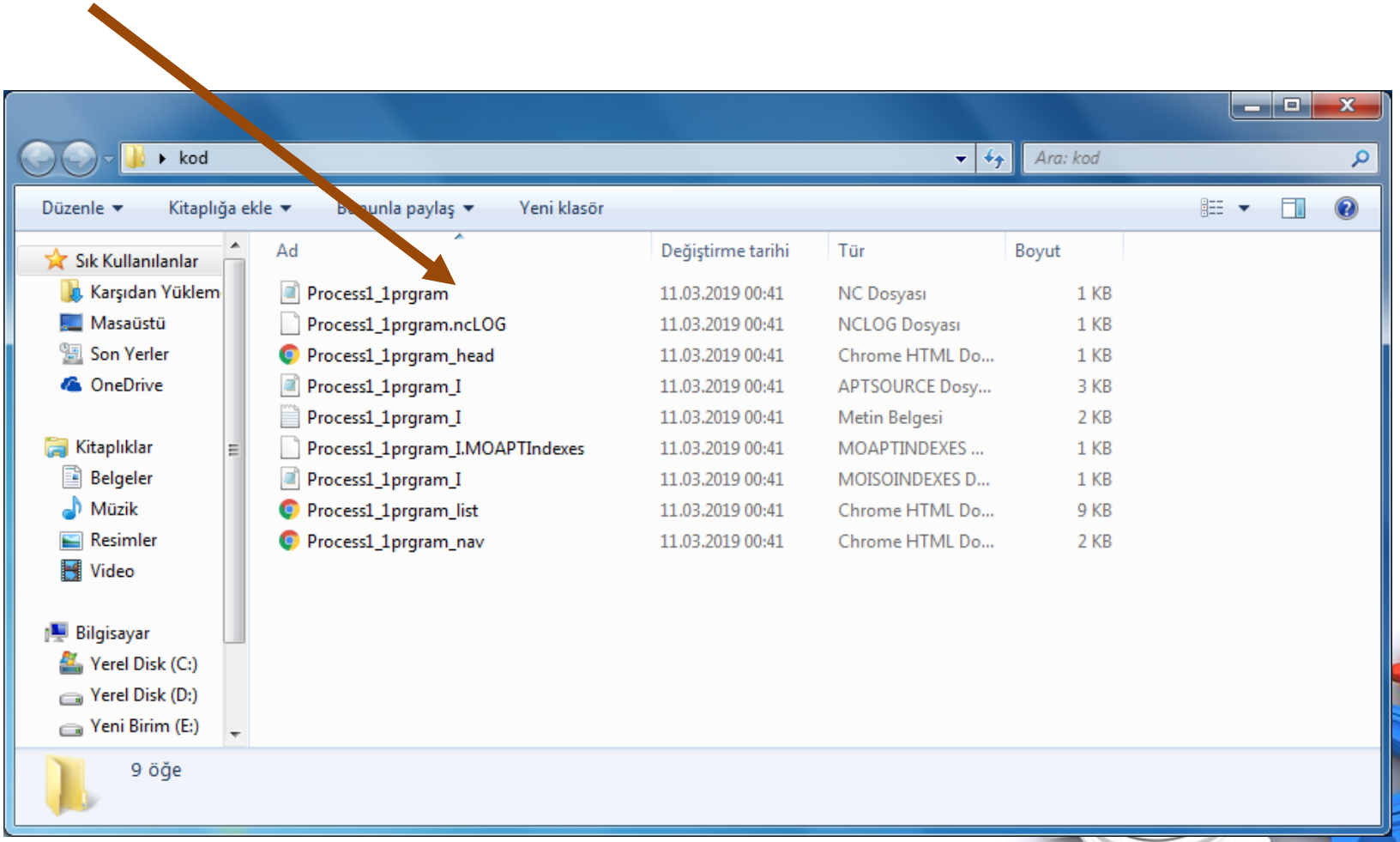


b) Nc Code seçilir, nc kodunun kaydedileceği klasör belirlerinin execute butonuna basılır





d) En üstteki Process1_1program dosyası not defteri ile açılır



e) Nc Kod dosyasının içeriği (Post Dosyası)

Process1_Part_Operation_1 - Not Defteri

Dosya Düzen Biçim Görünüm Yardım

```
%
O1000
N1 G49 G64 G17 G80 G0 G90 G40 G99
( TOOL: T1 EXTERNAL INSERT-HOLDER )
( OPERATION: ROUGH TURNING.1 )
N2 G1 G95 X47.5 Y0 Z12.5 S70 F.3
N3 Z10.5
N4 Z-149.5 F.4
N5 X47.712 Z-149.288 F.8
N6 G0 Z12.5
N7 X44.5
N8 G1 Z10.5 F.3
N9 Z-149.5 F.4
N10 X44.712 Z-149.288 F.8
N11 G0 Z12.5
N12 X41.5
N13 G1 Z10.5 F.3
N14 Z-149.5 F.4
N15 X41.712 Z-149.288 F.8
N16 G0 Z12.5
N17 X38.5
N18 G1 Z10.5 F.3
N19 Z-94.904 F.4
N20 X38.712 Z-94.692 F.8
N21 G0 Z12.5
N22 X35.5
N23 G1 Z10.5 F.3
N24 Z-87.404 F.4
N25 X35.712 Z-87.192 F.8
N26 G0 Z12.5
N27 X32.5
N28 G1 Z10.5 F.3
N29 Z-79.904 F.4
N30 X32.712 Z-79.692 F.8
N31 G0 Z12.5
N32 X29.5
N33 G1 Z10.5 F.3
N34 Z-72.404 F.4
N35 X29.712 Z-72.192 F.8
N36 G0 Z12.5
N37 X26.5
N38 G1 Z10.5 F.3
N39 Z-64.904 F.4
N40 X26.712 Z-64.692 F.8
N41 G0 Z12.5
N42 X23.5
N43 G1 Z10.5 F.3
N44 Z-57.404 F.4
N45 X23.712 Z-57.192 F.8
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