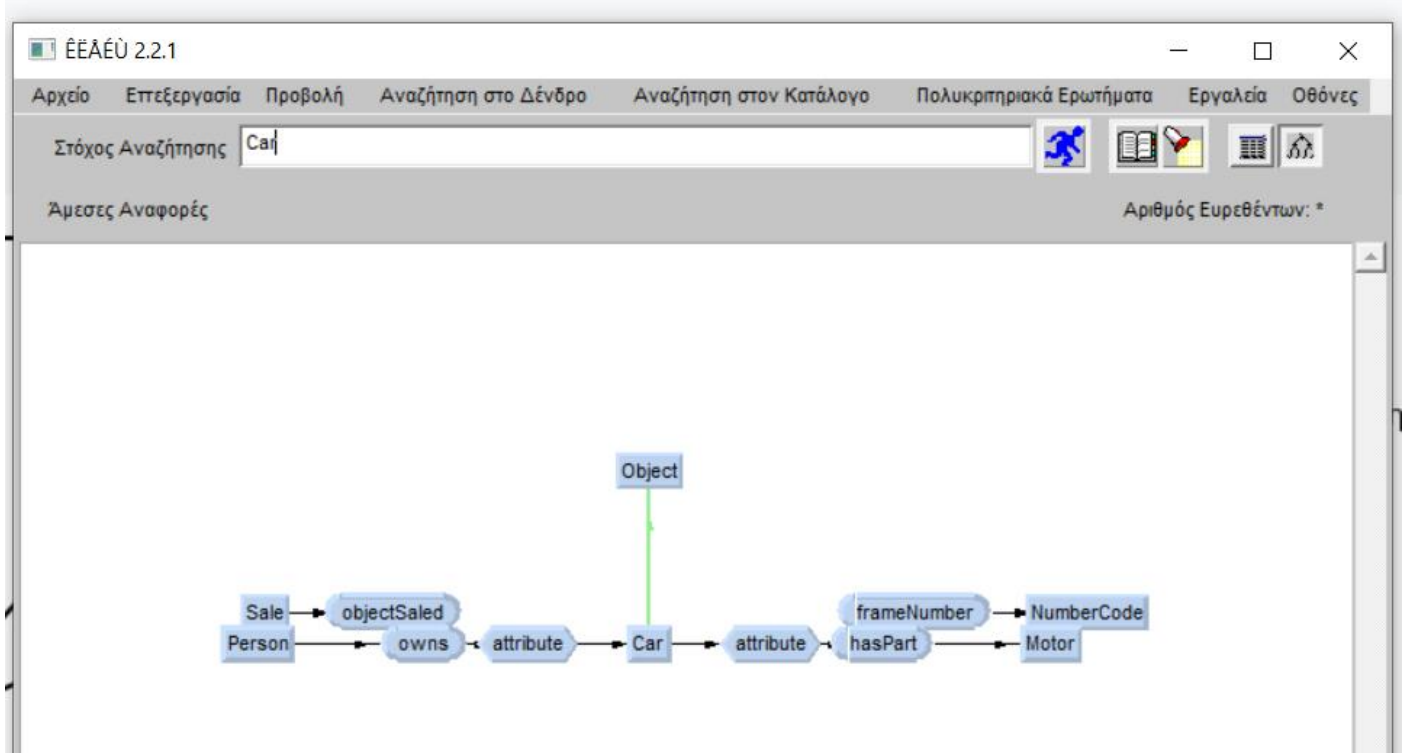


**Άσκηση 1:**

A) Το αρχείο του κώδικα Telos εμπεριέχεται στον φάκελο της εργασίας με όνομα 1a.tls



**BEGINTRANSACTION**

**TELL** Individual Object in S\_Class end Object

**TELL** Individual NumberCode in S\_Class end NumberCode

**TELL** Individual Motor in S\_Class isA Object with attribute motorNumber: NumberCode end Motor

**TELL** Individual Car in S\_Class isA Object with attribute frameNumber: NumberCode  
with attribute hasPart: Motor end Car

**TELL** Individual Person in S\_Class with attribute idPassport: NumberCode end Person

**TELL** Individual Value in S\_Class end Value

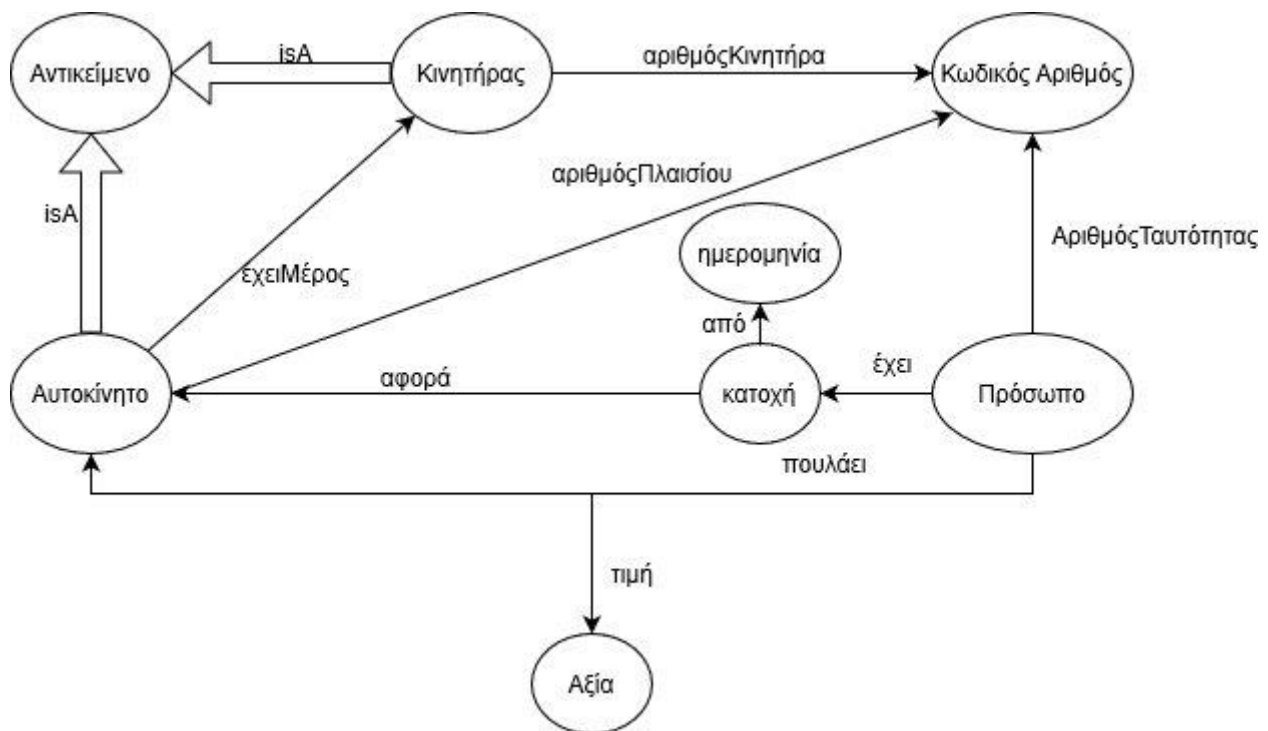
**TELL** Individual Sale in S\_Class with attribute objectSaled: Car with attribute price: Value  
with attribute salePerson: Person end Sale

**TELL** Individual Date in S\_Class end Date

**TELL** Attribute owns from: Person to: Car in S\_Class with attribute dateOfSale: Date end owns

**ENDTRANSACTION**

B)



Κώδικας στην τέλος(μόνο τα αλλαγμένα σημεία – ολόκληρος κώδικας στον φάκελο της εργασίας με όνομα 1b.tls):

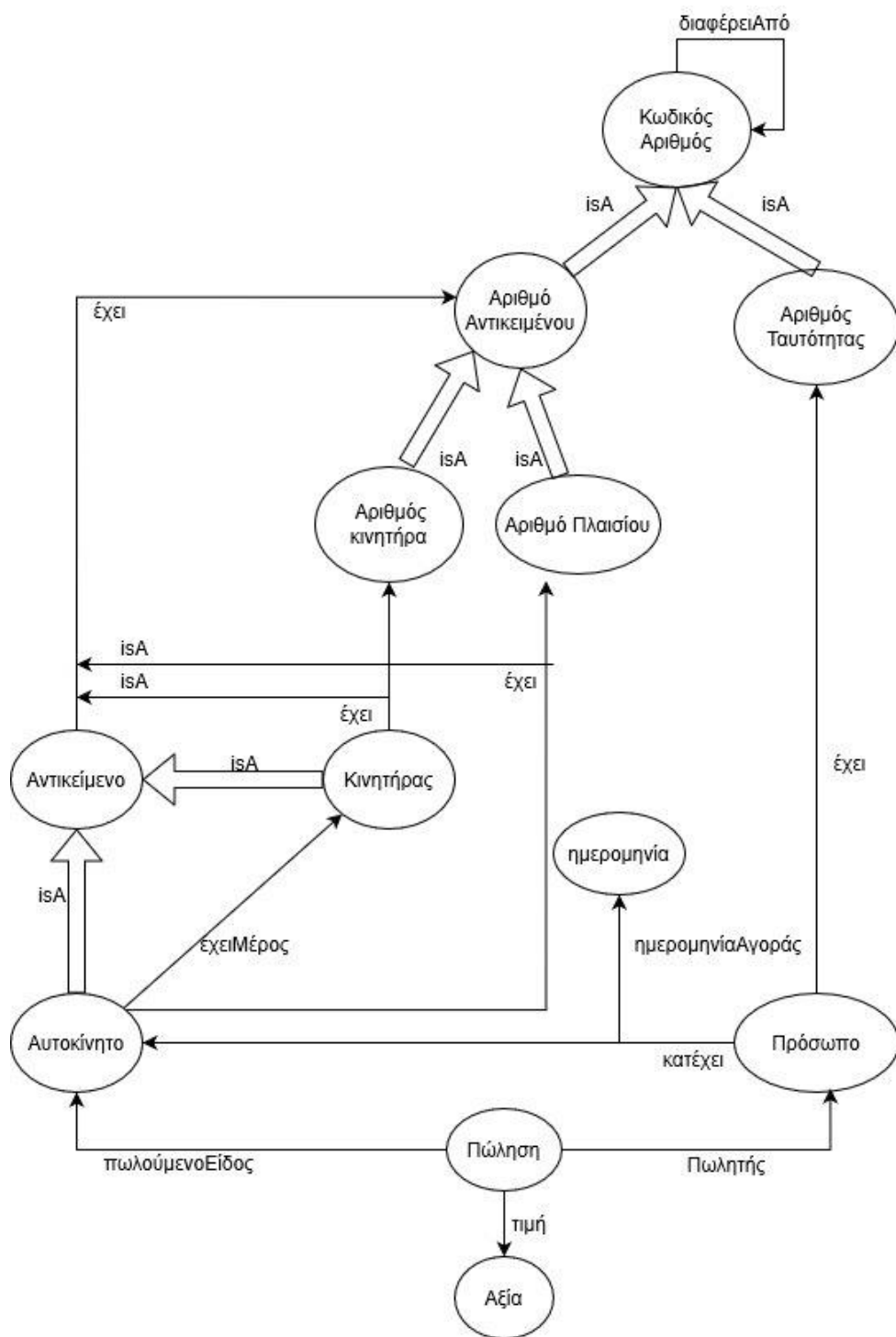
**TELL** Individual Ownership in S\_Class with attribute hasDate: Date with attribute refersTo: Car end Ownership

**TELL** Individual Person in S\_Class with attribute idPassport: NumberCode with attribute has: Ownership  
end Person

**TELL** Attribute sale from: Person to: Car in S\_Class with attribute money: Value end sale

Γ) Ο ολόκληρος κώδικας της τέλος βρίσκεται στον φάκελο τη εργασίας με όνομα 1c.tls

Τα γνωρίσματα αριθμός Κινητήρα from Κινητήρας, αριθμός Πλαισίου from Αυτοκίνητο και αριθμός Ταυτότητας from Πρόσωπο να προκύψουν ως εξειδικεύσεις του γνωρίσματος «έχει» της οντότητας Αντικείμενο με τη σχέση isA. Επίσης, ο κωδικός κινητήρα, ο αριθμός πλαισίου και ο αριθμός ταυτότητας είναι όλα ένας κωδικός αριθμός μοναδικός.



## **BEGINTRANSACTION**

**TELL** Individual NumberCode in S\_Class with attribute deferentOf: NumberCode end NumberCode

**TELL** Individual Object in S\_Class end Object

**TELL** Attribute hasNumber from: Object to: NumberCode in S\_Class end hasNumber

**TELL** Individual MotorNumber in S\_Class isA NumberCode end MotorNumber

**TELL** Individual Motor in S\_Class isA Object end Motor

**TELL** Attribute hasMotorNumber from: Motor to: MotorNumber in S\_Class, hasNumber end hasMotorNumber

**TELL** Individual FrameNumber in S\_Class isA NumberCode end FrameNumber

**TELL** Individual Car in S\_Class isA Object with attribute hasPart: Motor end Car

**TELL** Attribute hasFrameNumber from: Car to: FrameNumber in S\_Class isA hasNumber end hasFrameNumber

**TELL** Individual IdPassport in S\_Class isA NumberCode end IdPassport

**TELL** Individual Person in S\_Class with attribute hasIdPassport: IdPassport end Person

**TELL** Attribute hasIdPassport from: Person to: IdPassport in S\_Class isA hasNumber end hasIdPassport

**TELL** Individual Date in S\_Class end Date

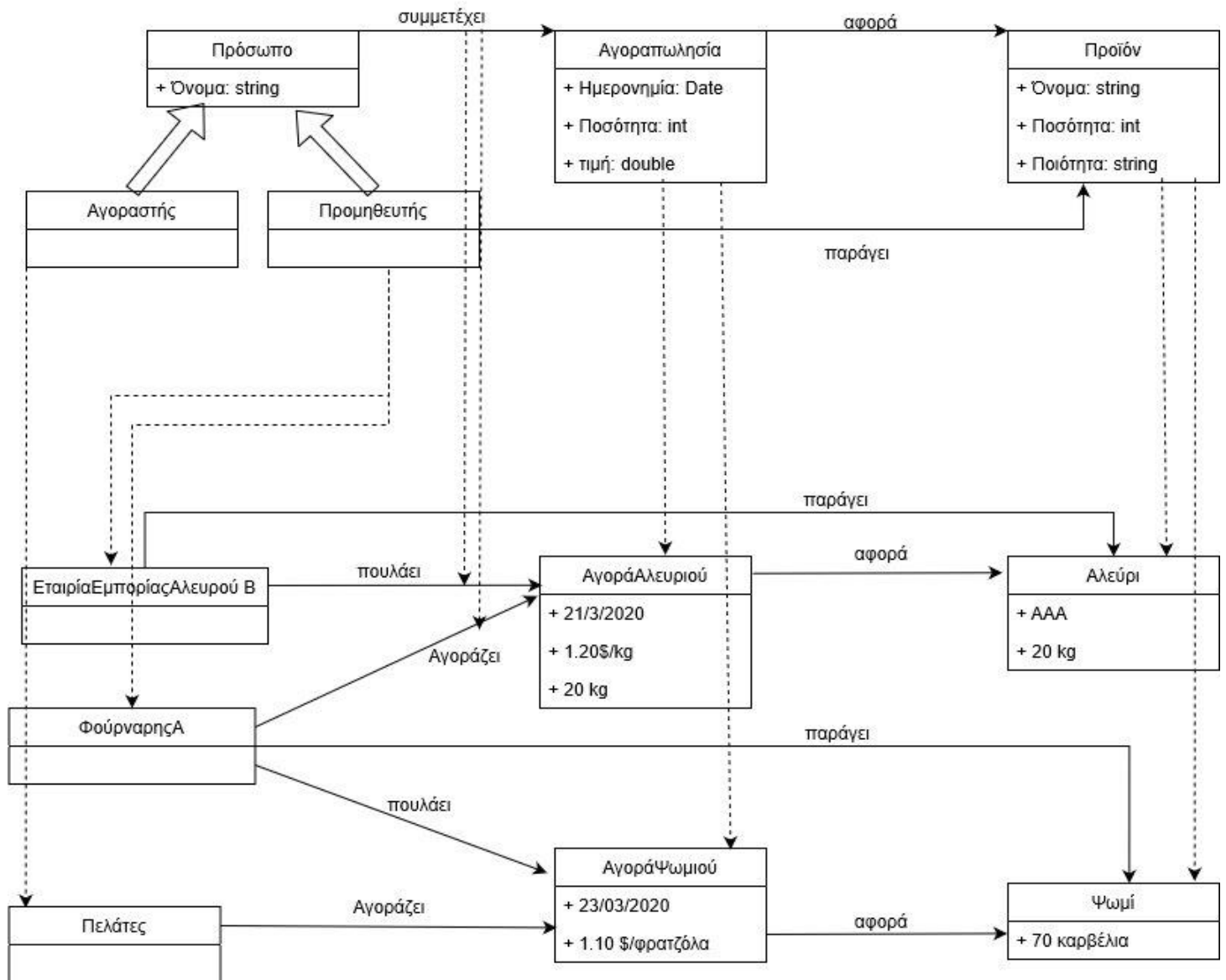
**TELL** Attribute owns from: Person to: Car in S\_Class with attribute dateOfSale: Date end owns

**TELL** Individual Value in S\_Class end Value

**TELL** Individual Sale in S\_Class  
with attribute objectSaled: Car  
with attribute price: Value  
with attribute salePerson: Person  
end Sale

## **ENDTRANSACTION**

## Άσκηση 2:



Κώδικας τελος( ολόκληρος ο κώδικας βρίσκεται στον φάκελο της εργασίας με όνομα ask2.tls):

## **BEGINTRANSACTION**

**TELL** Individual Date in S\_Class end Date

**TELL** Individual Porportion in S\_Class end Porportion

**TELL** Individual ProductPorportion in S\_Class isA Porportion end ProductPorportion

**TELL** Individual ProductionPorportion in S\_Class isA Porportion end ProductionPorportion

**TELL** Individual Quality in S\_Class end Quality

**TELL** Individual Name in S\_Class end Name

**TELL** Individual NameProduct in S\_Class isA Name end NameProduct

**TELL** Individual Product in S\_Class with attribute hasQuality: Quality  
with attribute hasProductPorportion: ProductPorportion  
with attribute hasNameProduct: NameProduct  
end Product

**TELL** Individual Value in S\_Class end Value

**TELL** Individual SellsAndPurchases in S\_Class with attribute referesTo: Product  
with attribute inDate: Date  
with attribute hasProductionPorportion: ProductionPorportion  
with attribute price: **telos\_real** (Δεσμευμένη συνάρτηση στην τελος)  
end SellsAndPurchases

**TELL** Individual NamePerson in S\_Class isA Name end NamePerson

**TELL** Individual Person in S\_Class with attribute participate: SellsAndPurchases  
with attribute hasNamePerson: NamePerson end Person

**TELL** Individual SalesPerson in S\_Class isA Person end SalesPerson

**TELL** Individual Suplier in S\_Class isA Person with attribute sypling: Product end Suplier

**TELL** Individual Baking in Token, Product end Baking

**TELL** Individual SalingBaking in Token, SellsAndPurchases with attribute refering: Baking end SalingBaking

**TELL** Individual CompanyB in Token, Suplier with attribute salesBaking: SalingBaking  
with attribute producingBaking: Baking end CompanyB

**TELL** Individual Bread in Token, Product end Bread

**TELL** Individual SalingBread in Token, SellsAndPurchases with attribute referedTo: Bread end SalingBread

**TELL** Individual BakerA in Token, Suplier with attribute bying: SalingBaking  
with attribute productionBread: Bread with attribute salerBread: SalingBread end BakerA

**TELL** Individual Costumer in Token, SalesPerson with attribute buy: SalingBread end Costumer

## **ENDTRANSACTION**

### Άσκηση 3:

A) TR μεταβατική σχέση όταν ισχύει:

Για κάθε  $O1, O2, O3 \in O$

$TR(O1, O2), TR(O2, O3) \rightarrow TR(O1, O3)$

TELL Individual EntityO in M1\_Class end EntityO

TELL Attribute tr

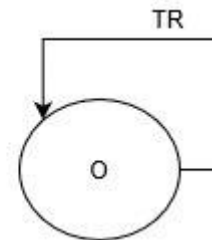
from: EntityO

to: EntityO

in M1\_Class

end tr

M1\_CLASS:



B) Ολόκληρος ο κώδικας στην τέλος είναι μέσα στον φάκελο της εργασίας με όνομα 3ab.tls

TELL Individual Object in S\_Class, EntityO

end Object

TELL Attribute consistsOf

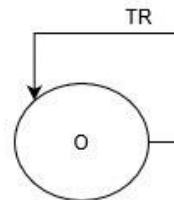
from: Object

to: Object

in S\_Class, tr

end consistsOf

M1\_CLASS:



TELL Individual Location in S\_Class, EntityO

end Location

TELL Attribute includes

from: Location

to: Location

in S\_Class, tr

end includes

S\_CLASS:



Αρα όλα είναι instances token της S\_Class και ως αντικείμενα και ως λύσεις.



Αργούς;» Πρέπει να ακολουθήσουμε το εξής μονοπάτι στο παραπάνω διάγραμμα:

Θαλαμιγός Αργώ / Πλωρί / Καταστρώμα / Σάντες / Πορογραφία / Πλογραφία

πυρογραφίες της πλωρης Αργούς. Κατι που απαντα στην παραπανω ερωτηση.