1. What is Reference Resolution? What are the components in Reference Resolution?

The task of determining what entities are referred to by which linguistic expression.

* Referring expression
* Referrents
* Co-referencing expressions
* Antecedent
* Anaphora

Find the components in the following sentences.

Guiliani left Bloomberg to be mayor of a city with a big budget problem. It is unclear how he will be able to handle it during his term.

* Referring expression-It,he,his

Referrents-big budget problem,Guiliani

Co-referencing expressions-he,his(both referring to Guiliani)

Antecedent-Guiliani,Big Budget problem

Anaphora- he,his,it

Captain Farragut was a good seaman, worthy of the frigate he commanded. His vessel and he were one. He was the soul of it.

* Referring expression-he, his, it

Referrents- Farragut, Vessel

Co-referencing expressions-he,his(both referring to cap, farragut)

Antecedent-cap farragut, Vessel

Anaphora- he,his , it

1. What are the five types of referring expressions ?
2. Indefinite Noun Phrases

* Indefinite reference introduces entities that are new to the hearer into the discourse context.
* Common form of indefinite reference is marked with the determiner a (or an),by a quantifier (some) or even determiner this.
* Eg: 1.I saw a Mercedes Benz today.

1. I saw this awesome Mercedes Benz today.

* Such noun phrases evoke a representation for a new entity.

1. Definite Noun Phrases

* Definite reference is used to refer to an entity that is

○ identifiable to the hearer

○ it is contained in the hearer’s set of beliefs about the world

○ the uniqueness of the object is implied by the description

itself.

* E.g.

○ I saw an Acura Integra today. The Integra was white and

needed to be washed.

○ The Indianapolis 500 is the most popular one in US.

○ The fastest car in the Indianapolis 500 was an Integra.

* A Definite Noun Phrase also evokes a representation of the referent into the discourse model.

1. Pronouns

* Pronominalization is another form of definite reference
* E.g.

I saw an Acura Integra today. It was white and needed to be washed.

* The constraints on using pronouns is that it should refer to entities that were introduced no further than one or two sentences back in the ongoing discourse, whereas definite noun phrases can often refer further back.
* Pronouns as Cataphora:
* Pronouns are mentioned before their referents are called Cataphoras
* E.g. Before he bought it, John checked over the Integra very carefully.
* Here, the pronouns he and it both occur before their referents are introduced.

1. Demonstratives

* Demonstrative pronouns, like this and that, can appear either alone or as determiners (this Acura, that Acura).
* The choice between two demonstratives is based on spatial proximity:

this indicating closeness and

that signaling distance.

* Spatial distance might be measured with respect to the discourse participants' situational context.
* E.g.

I bought an Integra yesterday. It’s similar to the one I bought five years ago. That one was really nice, but I like this one even better.

Here, that one refers to the Acura bought five years ago (greater temporal distance), whereas this one refers to the one bought yesterday (closer temporal distance).

1. One-anaphora(in ppt)/Names(in tech-max)

* One-anaphora, blends properties of definite and indefinite reference.
* E.g.

○ She has a white car. I also want one

○ She has the best BMW. I also want one like that.

* This usage is paraphrased by one of them, in which ‘them’ refers to a plural referent & one is a member from this set.
* Thus, one may evoke a new entity which is dependent on an existing referent.
* This use of one should be distinguished from the formal, non-specific pronoun usage and its meaning as the number one as shown below.
* E.g.

○ One shouldn’t pay more than twenty thousand dollars for an Acura.

○ John has two Acuras, but I only have one.

1. Explain the three types of referents that complicate the reference resolution problem
2. **Inferrables**

* Consider cases in which a referring expression does not refer to an entity that has been explicitly evoked in the text, but instead **one that is inferentially related to an evoked entity.** Such referents are called inferrables.
* E.g.

I almost bought an Acura Integra today, but a door had a dent and the engine seems noisy.

* The indefinite noun phrase a door would evoke a new door into the discourse context, but in this case infer : that it is not just any door, but one of the doors of the Integra.
* Similarly, no engine has been explicitly mentioned, but the hearer infers that the referent is the engine of Integra.

1. Discontinuous sets

* In some cases, references using plural referring expressions like they and them refer to sets of entities that are evoked together.
* E.g.

**John and Mary love their Acuras. They drive them all the time.**

* However, plural references may also refer to sets of entities that have been evoked by discontinuous phrases in the text:
* E.g.

**John has an Acura, and Mary has a Mazda. They drive them all the time.**

* Here, they refers to John and Mary, and likewise them refers to the Acura and the Mazda.

1. Generics

* Another kind of expression that does not refer back to an entity explicitly evoked in the text is generic reference.
* E.g.

I’m interested in buying a Mac laptop. They are very stylish.

* Here, they refer not to a particular laptop (or even a particular set of laptops), but instead to the class of Mac laptops.

1. Explain the Syntactic and Semantic Constraints on Coreference