Assignment sheet 1: Predicate logic

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General rules

- Requirements depending on your study program:

L2/L5:	pass assignment sheets	(Leistungsnachweis)
L2 (old):	do assignment sheets	(Teilnahmenachweis)
L3:	pass assignment sheets	(Leistungsnachweis)
BAES 3.4 (Vert. Sprachw. I):	pass assignement sheet	(Leistungsnachweis)
Magister:	pass assignment sheet	
Emp.Ling. K6.1:	do assignment sheets	(Teilnahmenachweis)
Emp.Ling. DH 6.2:	pass assignment sheets	(Leistungsnachweis)
Erasmus	pass assignment sheets	

- The assignment sheet is due by **June 13**.
- You can reach a total of 63 points. To pass the assigment sheet you have to reach more than 50% of the possible points, i.e. at least 32 points.
- The assignment sheet is built in such a way that **no two participants will hand in the same solutions**. You are free to work on the assignments in groups, but each of you has to hand in his or her individual solution.

Task 0: Choose one book that is originally written in English. Your book **must not** be: *Waiting for Godot*, *The Tempest*, any of the Harry Potter novels or any Tolkien novel, or any *Game of Thrones* novels. This book will be the basis for your answers to the assignment sheet.
State clearly which book you have chosen! Ideally include a link to a summary so that I get some information on the plot.

Task 1: Ambiguous sentences (8 points)

1. Write down **two** ambiguous sentences with respect to the book's content. The sentences must be instances of different types of ambiguities. Note: You don't have to find ambiguous sentences in the book, just come up with YOUR sentences that are ambiguous but relate to the book.
2. For each of these, provide an unambiguous paraphrase for each of the possible readings.
3. Classify the type of ambiguity.
4. Is one of them more plausible in the context of the book than the other?

Task 2: Model and interpretation (12 points)

1. Define a universe consisting of **four** main characters from your book.
2. Introduce names for your characters and provide their interpretations.
3. Introduce **three** property symbols relevant to the plot and provide their interpretations.
4. Introduce **two** 2-place relation symbols relevant to the plot and define their interpretations.

Task 3: Atomic formulæ (8 points)
Write down **two** atomic formulæ and compute their truth value with respect to your model as defined in Task 2.

Task 4: Complex formulæ (8 points)

1. Combine your two formulæ from Task 3 into **two** complex formulæ. Use **three different** connectives for this.
2. Compute the truth value of these complex formulæ. (You don't need to do the computation for the atomic formulæ again.)

Task 5: Logical and natural language connectives (6 points)
Provide quotes from your book in the following subtasks. Indicate the page number. If necessary, add comments on the context of the quote.

1. Provide a sentence from your book that contains an **exclusive *or***.
2. Provide a sentence from your book that contains an **inclusive *or***.
3. Provide **two** sentences in which two clauses are connected by *and*. Is this just interpreted as logical conjunction or is there an additional pragmatic effect?

Task 6: Variables (5 points)

1. Provide a variable assigment function g which maps the variables $x_1, \ldots x_5$ to members of your universe.
2. Provide **one** formula that contains **two** occurrences of variables.
3. Compute the truth value of this formula with respect to your assingment function g.

Task 7: Pronouns (6 points)

1. Quote a short passage from your book that contains at least **three personal or possessive pronouns**.
2. For each of the pronoun occurrences, determine who the pronoun refers to.
3. Are the referents of *she*, *he*, ... constant throughout the passage? Comment on your observation.

Task 8: Quantifiers (10 points)
Write down **one** formula with an **existential** quantifier, and **one** formula with a **universal** quantifier. **For each of the two** formula:

a. Provide the standard paraphrase and indicate the restrictor and the scope.

b. For each individual in your universe, indicate whether the restrictor and the scope are true for that individual.

c. Given your results from (b), is the formula true in your model?

d. In which way would your model have to be different to make the formula false (or, in case the formula is false: to make it true in your model)?

Good luck!