**GP - GEB Reading Assignment: Introduction + Three-Part Invention** 

Name: Franklyn Sanchez

Abstract: This is the first reading assignment from Douglas Hofstadter's "Godel, Escher, Bach" book. It is intended to provide an introduction Hofstadter's writing style, and to set the stage for subsequent assignments associated with

the book.

Ten Salient Ideas from "Introduction: A Musico-Logical Offering"

I found it interesting that although king Fedrick was a king one of his customs was to
play the flute as a soloist for his court during evening concerts. I don't think I have ever
heard of another king that did that.

- 2. The section defining the Italian word Ricercar is informative because I have never heard of it.
- 3. Its significant to note out that Bach wrote out the ten canons in the musical offering for King Fredrick but never completed them to get the listener thinking about the rest theme and interpreting the rest of it themselves.
- 4. Another significant fact is that canon themes only work if notes can serve in dual and other types of roles.
- 5. The theme being fully recoverable from any of its copies is a representation known as isomorphism.
- 6. Bach's implication that the Endlessly Rising Canon process was infinitum was likely referring to his support and wanting the king to continue in power.
- 7. An important occurrence as referred to in the book is the Strange Loop which is when you move on a hierarchy in a direction and end up in the first place you started.

- 8. Something interesting on most of Escher's drawings is that they mix in fantasy with reality to further the viewers thoughts.
- Gödel discovered that the Epimenides paradox which is a Strange Loop that had a mathematical representation by exploring it with mathematical reason.
- 10. In Gödel Code, numbers represent symbols and strings of symbols.

Reaction to "Three-Part Invention"

The story with Achilles and the Tortoise was both a smooth and informative exchange about Zeno's paradox and how it reasons that motion is impossible. I enjoyed how the scene was set when Achilles and the Tortoise were discussing the flagpole piece and their interpretations of it before Zeno, the creator himself magically appeared to discuss the intentionality of the art.

Another good addition that explained Zeno's theory that motion is impossible well is the footrace story. While reading Zeno's explanation I was having an easy time picturing Achilles being able to pass the turtle because they were both in motion. Overall, this was an informative reading and the conversation exchange format it was written in allowed for a good understanding of the different possible interpretations of Zeno's paradox.