This paper will establish the content of your final presentation. Return to one of the cultures or philosophies you studied in your first paper. Go to the creation story of this culture, which may be from an ancient mythological text or inscription like Genesis or a more contemporary philosophical source such as Aristotle or Lao Tzu.

Briefly summarize the story with quotes from the source(s).
What does the creation story attempt to explain?
What does the creation story ask about but leave unexplained?
What does the creation story not ask about?

Now summarize our modern creation story: the Hot Big Bang model.
What does the creation story attempt to explain?
Go through the successes of this story with technical precision, showing that
• the equations derived from GR and thermodynamics (with vacuum energy) can explain both an expanding and accelerating universe. Explicitly show how the equations can explain these observations. (You may use your Paper 2.)
• the model of decoupling predicts the temperature of the CMB. Use the scaling factor to derive the current CMB temperature and peak wavelength from their theoretical values at the time of decoupling.
• the model of nucleosynthesis predicts the relative abundances of light elements. Model nucleosynthesis in Mathematica to show that the predicted abundance of $\text{He}^4$ agrees with the observational value. (Email your notebook separately.) You should briefly explain the radiation to matter dominant transition.
• the model of the early universe with Inflation explains the isotropy of the CMB and the incredible flatness of the universe in its early history.
What does the Hot Big Bang model ask about but leave unexplained?
• Dark Matter, with a brief explanation of galactic orbital speeds vs. radius
• Dark Energy
• the cause of Inflation
• the scarcity of antimatter, the initial singularity, or fine tuning (choose one)

What does the Hot Big Bang not ask about?
Compare the cultural purposes of the two creation stories. Compare the assumptions within both stories? What questions do both stories leave unexplained? What difficulties challenge human comprehension of the beginning of time throughout history and today?