Problem 6: (30 points) For the FIR filter with function below determine the direct form realization.

𝐇(𝐳) = 𝟏 + 𝟐𝐳 −𝟏 − 𝟑𝐳 −𝟐 − 𝟒𝐳 −𝟑 + 𝟓𝐳 –𝟒

Build this filter using basic building blocks in Simulink. Make this a reference model.