# Analyze correlations between quantum and chaos vectors, as well as their dream outputs

correlation\_results = []

for i, r in enumerate(results):

quantum = np.array(r["quantum"])

chaos = np.array(r["chaos"])

dream\_q = np.array(r["dream\_q"])

dream\_c = np.array(r["dream\_c"])

q\_c\_corr = np.corrcoef(quantum, chaos)[0, 1]

dq\_dc\_corr = np.corrcoef(dream\_q, dream\_c)[0, 1]

q\_dq\_corr = np.corrcoef(quantum, dream\_q)[0, 1]

c\_dc\_corr = np.corrcoef(chaos, dream\_c)[0, 1]

correlation\_results.append({

"Dream #": i + 1,

"Quantum ↔ Chaos": round(q\_c\_corr, 3),

"DreamQ ↔ DreamC": round(dq\_dc\_corr, 3),

"Quantum ↔ DreamQ": round(q\_dq\_corr, 3),

"Chaos ↔ DreamC": round(c\_dc\_corr, 3)

})

correlation\_df = pd.DataFrame(correlation\_results)

tools.display\_dataframe\_to\_user(name="Dream Correlation Analysis", dataframe=correlation\_df)

Dream # Quantum ↔ Chaos DreamQ ↔ DreamC Quantum ↔ DreamQ Chaos ↔ DreamC 0 1 0.856 0.041 0.486 -0.019 1 2 -0.887 0.129 0.976 -0.350 2 3 -0.865 0.435 0.869 0.311 3 4 0.527 0.602 0.940 0.196 4 5 0.349 0.687 0.916 0.280