```
INPUT data
FOR each variable in data
    Run KDE plot to find estimated prior distribution
FOR each variable in data
    SET variable distribution
        SET distribution parameters
    SET data as likelihood
Function: No-U-Turn-Sample (Variation of Hamiltonian Monte Carlo)
    FOR each variable in data
        GET initial sample from distribution
        CALCULATE vector from Uniform distribution of distance from data
        SET shortened vector in opposite direction
        IF vector is positive, add to right tree
        ELSE add to left tree
            USING recursion begin to build likelihood distribution
    END WHEN number of specified iterations has completed
CALL: No-U-Turn-Sample
PLOT data against posterior estimate
PRINT summary of means and variances
Function: Two-stage Hierarchical Model
    SET global variable distributions and parameters
    SET predictive variable distributions and parameters
    CREATE regression with global as independent
    SET likelihood as data
CALL: No-U-Turn-Sample with Two-Stage Hierarchical Model as input
SUMMARIZE means as coefficients for predictive models
```