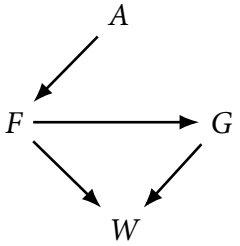
STATISTICAL RETHINKING 2026
HOMEWORK A07

This homework is based on the data in `data(foxes)`: 116 foxes from 30 different urban groups in England. These fox groups are like street gangs. We consider four variables. Each group maintains its own (almost exclusive) urban territory. Some territories are larger than others. The `area` variable is the size of each territory. Group size (`groupsize`) varies from 2 to 8 individuals and is the number of foxes in each territory. Some territories also have more `avgfood` than others. And finally food influences the `weight` of each fox. Assume this DAG:



where F is `avgfood`, G is `groupsize`, A is `area`, and W is `weight`.

Use the backdoor criterion and estimate the total causal influence of F on W. What is the minimal adjustment set? What effect would increasing the food have on the weight of foxes inside it? Can you explain the result?