Calculating Information Gain for features given gender = Female:

Feature:age, Information Gain: 0.0639

Feature:hypertension, Information Gain: 0.0102

Feature:heart\_disease, Information Gain: 0.0059

Feature:ever\_married, Information Gain: 0.0061

Feature:work\_type, Information Gain: 0.0076

Feature:Residence\_type, Information Gain: 0.0002

Feature:avg\_glucose\_level, Information Gain: 0.2504

Feature:bmi, Information Gain: 0.1023

Feature:smoking\_status, Information Gain: 0.0030

Calculating Information Gain for features given gender = Male:

Feature:age, Information Gain: 0.0831

Feature:hypertension, Information Gain: 0.0067

Feature:heart\_disease, Information Gain: 0.0121

Feature:ever\_married, Information Gain: 0.0173

Feature:work\_type, Information Gain: 0.0161

Feature:Residence\_type, Information Gain: 0.0002

Feature:avg\_glucose\_level, Information Gain: 0.2801

Feature:bmi, Information Gain: 0.1236

Feature:smoking\_status, Information Gain: 0.0068