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Lab 05b - Risk of Heart Attack - Planning Document

Problem: Find a person's 10 year-risk of getting a heart-attack (%) given gender, age, cholesterol, whether or not a smoker, HDL, and Systolic BP & whether it's treated using the NIH guidance document. Print a statement stating the percent.

Procedure: Ask the gender, age, cholesterol, and smoking habit.

Make an if-elif-loop for age ranges, under that put the cholesterol if-elif-loop and smoking if-loop. Make sure to match age with cholesterol and smoking habit.

Ask for HDL, make an if-elif-loop. Same for BP. Don't forget to ask if it's treated. Cast all variables accordingly.

Input Needed: Gender with an output of M or F, age (number between 20 and 79), cholesterol level (number), whether or not a smoker (1 for yes, 0 for no), systolic BP (number) & whether it's treated (1 for yes, 0 for no), and HDL (number).

Key variables: Gender (string), ask for M for male and F for female. Later used to set M and F to 0 or 1.

M and F (integers), set to either 1 or 0 based on the gender. Makes the program very compact and neat.

Age, cholesterol, HDL, and BP (all integers), asks for age, cholesterol, HDL, and systolic BP, respectively.

Smoker (integer), asks if the user is a smoker. Expects 1 for yes or 0 for no.

treated(integer), asks if the user's systolic BP is treated. Expects 1 for yes or 0 for no.

Test cases: Gender - M; Age - 50; cholesterol - 200; smoker; HDL - 50; Systolic BP - 130; untreated.

Gender - F; Age - 30; cholesterol - 240; non-smoker; HDL - 40; Systolic BP - 165; treated.

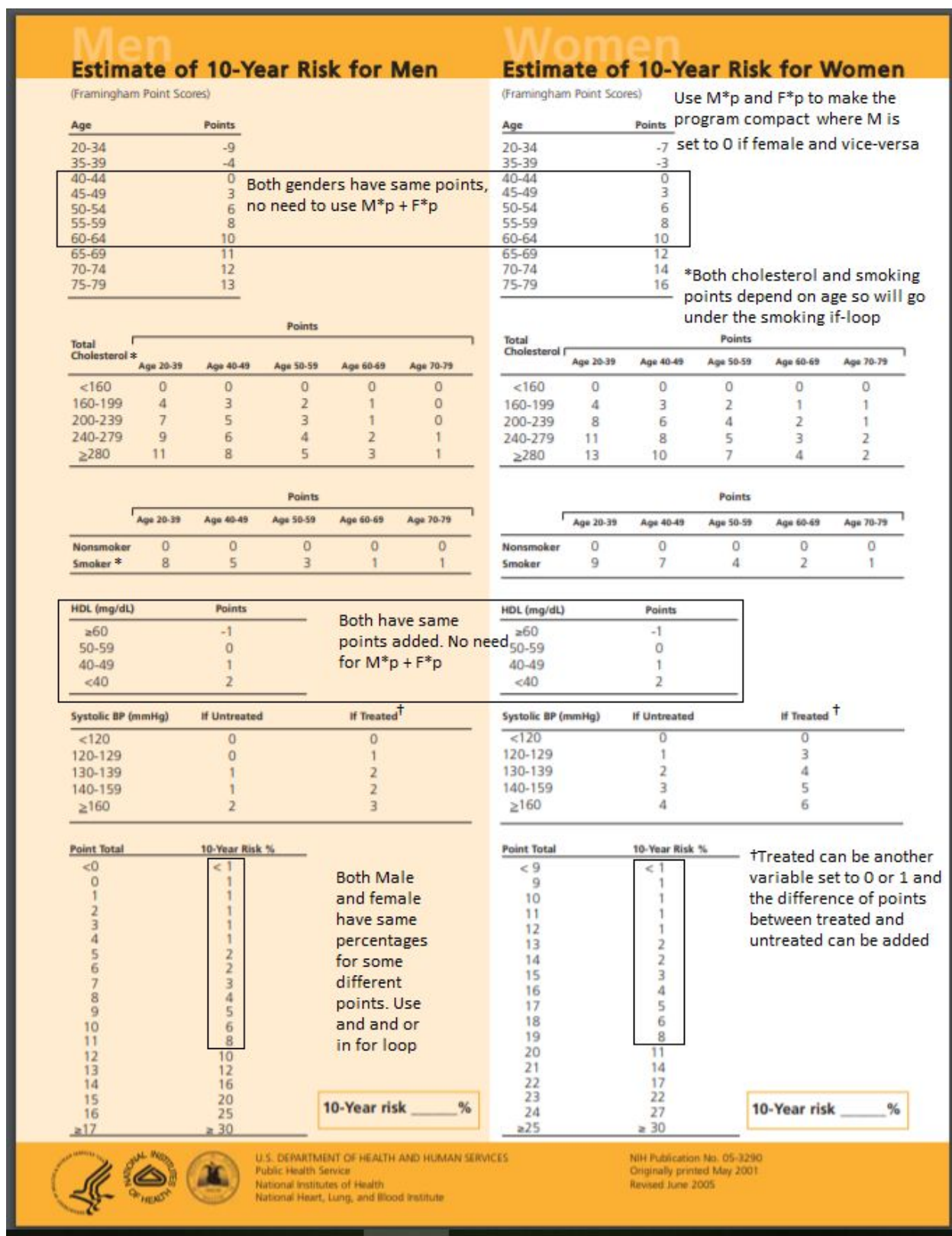
Gender - M; Age - 25; cholesterol - 150; non-smoker; HDL - 70; Systolic BP - 100; untreated.

Gender - F; Age - 70; cholesterol -300; smoker; HDL - 30; Systolic BP - 140; treated.

Gender - M; Age - 60; cholesterol - 120; non-smoker; HDL - 60; Systolic BP - 140; treated.

Checked with online heart-attack calculators, results are mostly accurate, sometimes a difference of 1.

Annotated Chart:







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