Individual Lab 6 - Risk of Heart Attack

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Problem Statement:

This assignment asks us to write a program that shows a person's 10-year risk of a heart attack based on guidelines from the National Institutes of Health, following their parameters of variables like cholesterol, age, etc.

Notes from NIH Document:

- Men and women all have different risk rates
- Risk rate is gender dependent - need to account for that in program
- HDL doesn't change with gender
- Point total can be calculated from combining all the points from each variable

Pre-programming, variables, planning, test cases

- Creating user defined functions for each point value:

Returning values that user inputs as correct

```
def valueReturn(gender, smokes, bloodtr):
    if gender in ("Male", "MALE", "male"):
        sex = "male"
    if gender in ("Female", "FEMALE", "female"):
        sex = "female"

    if smokes in ("yes", "True", "Yes", True, 1):
        smoker = True
    if smokes in("no", "False", "No", False, 0):
        smoker = False

    if bloodtr in ("yes", "True", "Yes", True, 1):
        bloodtreat = True
    if bloodtr in ("no", "False", "No", False, 0):
        bloodtreat = False
```

```
    return(sex, smoker, bloodtreat)
```

EXAMPLE:

```
def agePts(sex, age):
    points = 0
    if sex == "male":
         # Age - male
        if  20 <= age <= 34:
            points-=9
        if  35 <= age <= 39:
            points-=4
        if  40 <= age <= 44:
            points-=0
        if  45 <= age <= 49:
            points+=3
        if  50 <= age <= 54:
            points+=6
        if  55 <= age <= 59:
            points+=8
        if  60 <= age <= 64:
            points+=10
        if  65 <= age <= 69:
            points+=11
        if  70 <= age <= 74:
            points+=12
        if  75 <= age <= 79:
            points+=13

    #IF FEMALES
    elif sex == "female":
        # Age - female
        if  20 <= age <= 34:
            points-=7
        if  35 <= age <= 39:
            points-=3
        if  40 <= age <= 44:
            points-=0
        if  45 <= age <= 49:
```

```
            points+=3
        if  50 <= age <= 54:
            points+=6
        if  55 <= age <= 59:
            points+=8
        if  60 <= age <= 64:
            points+=10
        if  65 <= age <= 69:
            points+=12
        if  70 <= age <= 74:
            points+=14
        if  75 <= age <= 79:
            points+=16

    return(points)
```

VARIABLES:

Age (int), sex (String), cholesterol(int), hdl(int) cholesterol(int), smoker(bool), bloodtreatment (bool), systolicbp(int)

PERCENT RISK

```
    if sexgender == "male":
        if points <= 0:
            percent_risk ="<1%"
        elif points == 1:
            percent_risk ="1%"

        elif points == 2:
            percent_risk ="1%"

        elif points == 3:
            percent_risk ="1%"

        elif points == 4:
            percent_risk ="1%"

        elif points == 5:
```

```
        percent_risk ="2%"

    elif points == 6:
        percent_risk ="2%"

    elif points == 7:
        percent_risk ="2%"

    elif points == 8:
        percent_risk ="2%"

    elif points == 9:
        percent_risk ="5%"

    elif points == 10:
        percent_risk ="6%"

    elif points == 11:
        percent_risk ="8%"

    elif points == 12:
        percent_risk ="10%"

    elif points == 13:
        percent_risk ="12%"

    elif points == 14:
        percent_risk ="16%"

    elif points == 15:
        percent_risk ="20%"

    elif points == 16:
        percent_risk ="25%"

    elif points >= 17:
        percent_risk =">30%"

elif sexgender == "female":
    if points <= 9:
        percent_risk ="<1%"
    elif 9 <= points <= 12:
        percent_risk ="1%"
```

```
    elif 13 <= points <= 14:
        percent_risk ="2%"

    elif points == 15:
        percent_risk ="3%"

    elif points == 16:
        percent_risk ="4%"

    elif points == 17:
        percent_risk ="5%"

    elif points == 18:
        percent_risk ="6%"

    elif points == 19:
        percent_risk ="8%"

    elif points == 20:
        percent_risk ="11%"

    elif points == 21:
        percent_risk ="14%"

    elif points == 22:
        percent_risk ="17%"

    elif points == 23:
        percent_risk ="22%"

    elif points == 24:
        percent_risk ="27%"

    elif points >= 25:
        percent_risk ="30%"
```

EXPECTED OUTPUT FROM USER DEFINED FUNCTIONS: points (integer)

Expected final output is a string of percent dependent on cumulative points