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By submitting this assignment, we agree to the following:
Aggies do not lie, cheat, or steal, nor tolerate those who do.
We have not given or received any unauthorized aid on this assignment.
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Section: ENGR 102 536
Assignment: Lab6Team_Plan
Date: 10/3/23
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Planning Doc

Variable list:
- Gender - (m or f)
- Age - int
- total cholesterol - int
- Smoke - (y or n)
- HDL - int
- BP - int
- Treatment - (y or n)
- sum_points

Steps
1. Ask for 7 inputs (gender, age, total cholesterol, smoke, HDL, BP, treatment)
2. First check user gender (==)
3. If male:
   a. Check age and assign male correlated points (to sum_points) using an aggregate of if, elif statements relating to the ranges and points given for male ages
      i. If input is invalid return error statement
   b. Check cholesterol and age using if statements, and add correlating points to sum_points
      i. If input is invalid return error statement
   c. Check Smoker status (y or n) and age using if statements, and add correlating points to sum_points
      i. If input is invalid return error statement
   d. Check HDL, use if statements to find what range it lands in, and add correlating points to sum_points
      i. If input is invalid return error statement
   e. Systolic BP - use if statements to find what range it lands into and nest another if statement in the previous one to check if the user is being treated (y or n), add correlating points to sum_points
      i. If input is invalid return error statement
4. Else if female:
   a. check age and assign male correlated points (to sum_points) using an aggregate of if, elif statements relating to the ranges and points given for male ages
      i. If input is invalid return error statement

       b. Check cholesterol and age using if statements, and add correlating points to sum_points
            i.   If input is invalid return error statement
       c. Check Smoker status (y or n) and age using if statements, and add correlating points to sum_points
            i.   If input is invalid return error statement
       d. Check HDL, use if statements to find what range it lands in, and add correlating points to sum_points
            i.   If input is invalid return error statement
       e. Systolic BP - use if statements to find what range it lands into and nest another if statement in the previous one to check if the user is being treated (y or n), add correlating points to sum_points
            i.   If input is invalid return error statement
5. Calculate 10 year risk based on gender and sum_points using an aggregate of if, elif statements relating to the ranges and sum_points given for each gender
6. Print sum_points and 10 year risk

TEST CASES
Anish:

1
Gender: m
Age: 100
Total Cholesterol: 200
Smoke: y
HDL: 49
Systolic BP: 130
Treated or Not Treated:y
Output: This quiz is for ages 20 to 79. Enter your age:
Statement: Tests edge case of what will happen if an age outside of the ones the model was constructed for is inputted for males.

2
Gender: f
Age: 100
Total Cholesterol: 200
Smoke: y
HDL: 49
Systolic BP: 130
Treated or Not Treated: y
Output: This quiz is for ages 20 to 79. Enter your age:

Statement: Tests edge case of what will happen if an age outside of the ones the model was constructed for is inputted for females.

3
Gender: m
Age: 32
Total Cholesterol: 400
Smoke: y
HDL: 50
Systolic BP: 130
Treated or Not Treated:n
Output: 10-Year risk is 8%
Statement: Checks for what happens if the total cholesterol is an outlier

4
Gender: f
Age: 45
Total Cholesterol: 2
Smoke: y
HDL: 50
Systolic BP: 52
Treated or Not Treated:y
Output: 10-Year risk is 1%
Statement: Checks for what happens if the total cholesterol is an outlier for f

5
Gender: n
Age: 100
Total Cholesterol: 200
Smoke: y
HDL: 55
Systolic BP: 129
Treated or Not Treated:y
Output: Not a valid gender!
Statement: checks for if wired gender in inputted

6
Gender: m
Age: 18
Total Cholesterol: 200
Smoke: y
HDL: 51
Systolic BP: 129
Treated or Not Treated:y

Output: This quiz is for ages 20 to 79. Enter your age:
Statement: Checks if age is out of bounds on the younger side for male.

7
Gender: f
Age: 18
Total Cholesterol: 200
Smoke: y
HDL: 51
Systolic BP: 129
Treated or Not Treated:y
Output: This quiz is for ages 20 to 79. Enter your age:
Statement: Check If age is out of bounds on the younger side for females.

8
Gender: m
Age: 65
Total Cholesterol: 200
Smoke: y
HDL: 51
Systolic BP: 129
Treated or Not Treated:y
Output: 10-Year risk is 16%
Statement: Random test case to check normal inputs within correct ranges.

All of my test cases return an appropriate value - Anish

Peter
9
Gender: k
Age: 67
Total Cholesterol: 205
Smoke: n
HDL: -78
Systolic BP: 103
Treated or Not Treated:y
Hypochondriac:n
Output: Not a valid gender!
Statement: Testing if gender is not 'm' or 'f' and HDL is in an invalid range

10
Gender: m
Age: 165
Total Cholesterol: 1

Smoke: y
HDL: 89
Systolic BP: 129
Treated or Not Treated:y
Hypochondriac: y
Output: 10-Year risk is 1%
Statement: Testing code if extremely low cholesterol and age is above 79

11
Gender: m
Age: 34
Total Cholesterol: 200
Smoke: n
HDL: 25
Systolic BP: 230
Treated or Not Treated:y
Hypochondriac:n
Output 10-Year risk is 1%
Statement: Testing random inputs for expected outputs

12
Gender: m f
Age: 35
Total Cholesterol: 128
Smoke: n
HDL: 124
Systolic BP: 189
Treated or Not Treated:y
Hypochondriac:n
Output: Not a valid gender
Statement: Testing for multiple inputs for gender

13
Gender: m
Age: 12
Total Cholesterol: 200
Smoke: n
HDL: 45
Systolic BP: 109
Treated or Not Treated:y
Hypochondriac:y
Output: 10-Year risk is 1%
Statement: Testing for age younger than 20

14
Gender: f
Age: 23
Total Cholesterol: 120
Smoke: n n
HDL: 44
Systolic BP: 86
Treated or Not Treated:y
Hypochondriac:y
Output: Not a valid Smoker response!
Statement: Testing for multiple non-smoking inputs

15
Gender: m
Age: 41
Total Cholesterol: 210
Smoke: n
HDL: 89
Systolic BP: n
Treated or Not Treated:n
Hypochondriac:n
Output: Error
Statement: Testing if statements invalid input for Systolic BP

16
Gender: f
Age: 39
Total Cholesterol: 4000000
Smoke: y
HDL: 51
Systolic BP: 129
Treated or Not Treated:y
Hypochondriac:n
Output: 10-Year risk is 17%
Statement: Testing output if cholesterol is ridiculously high

Mrinal
17
Gender: f
Age: 36
Total Cholesterol:169
Smoke: y
HDL: 68
Systolic BP: 112

Treated or Not Treated:n
Hypochondriac:n
Output: 10-Year risk is less than 1%
Statement: Testing a normal value
18
Gender: m
Age: 62
Total Cholesterol: 180
Smoke: y
HDL: 10
Systolic BP: 156
Treated or Not Treated:y
Hypochondriac:n
Output: 10-Year risk is 20%
Statement: Testing output if hdl is low

19
Gender: f
Age: 77
Total Cholesterol: 200
Smoke: y
HDL: 96
Systolic BP: 188
Treated or Not Treated:y
Hypochondriac:y
Output: 10-Year risk is 20%
Statement: Testing output user is old

20
Gender: m
Age: 100
Total Cholesterol: 888
Smoke: y
HDL: 65
Systolic BP: 150
Treated or Not Treated:y
Hypochondriac:n
Output: 10-Year risk is 1%
Statement: Testing output if cholesterol is high

21
Gender: f
Age: 59

Total Cholesterol: 165
Smoke: y
HDL: 65
Systolic BP: 129
Treated or Not Treated:y
Hypochondriac:n
Output: 10-Year risk is 1%
Statement: Testing if output if correct

22Gender: f
Age: 65
Total Cholesterol:156
Smoke: a
HDL: 51
Systolic BP: 129
Treated or Not Treated:y
Hypochondriac:n
Output: 10-Year risk is 17%
Statement: Testing output if invalid response will run
23
Gender: m
Age: 44
Total Cholesterol: 140
Smoke: n
HDL: 65
Systolic BP: 115
Treated or Not Treated:n
Hypochondriac:n
Output: 10-Year risk is 1%
Statement: Testing output for a regular person

24Gender: m
Age: 64
Total Cholesterol: 200
Smoke: n
HDL: 40
Systolic BP: 160
Treated or Not Treated:n
Hypochondriac:n
Output: 10-Year risk is 16%
Statement: Testing output for a regular person

Quinton

25
Gender: M
Age: 37
Total Cholesterol: 130
Smoke: Y
HDL: 52
Systolic BP: 123
Treated or Not Treated: N
Expected: 1%
Output: 10-year risk is 1%
Statement: Testing regular values throughout test range

26
Gender: M
Age: 38
Total Cholesterol: 250
Smoke: Y
HDL: 45
Systolic BP: 145
Treated or Not Treated: N
Expected: 25%
Output: 10-year risk is 25%
Statement: Testing regular values throughout test range

27

Gender: F
Age: 49
Total Cholesterol: 200
Smoke: N
HDL: 60
Systolic BP: 140
Treated or Not Treated: N
Expected: 1%
Output: 10-year risk is 1%
Statement: Testing regular values throughout test range

28
Gender: F
Age: 79
Total Cholesterol: 179

Smoke: Y
HDL: 87
Systolic BP: 200
Treated or Not Treated: Y
Expected: 22%
Output: 10-year risk is 22%
Statement: Testing regular values throughout test range

29
Gender: F
Age: 52
Total Cholesterol: 159
Smoke: N
HDL: 32
Systolic BP: 119
Treated or Not Treated: N
Expected: less than 1%
Output: 10-year risk is less than 1%
Statement: Testing regular values throughout test range

30
Gender: M
Age: 66
Total Cholesterol: 180
Smoke: N
HDL: 45
Systolic BP: 155
Treated or Not Treated: Y
Expected: 20%
Output: 10-year risk is 20%
Statement: Testing regular values throughout test range

31
Gender: M
Age: 21
Total Cholesterol: 160
Smoke: Y
HDL: 29
Systolic BP: 170
Treated or Not Treated: Y
Expected: 1%
Output: 10-year risk is 1%
Statement: Testing regular values throughout test range

32
Gender: m
Age: 0
Total Cholesterol: 0
Smoke: y
HDL: 0
Systolic BP: 0
Treated or Not Treated: y
Expected: Error
Output: Error
Purpose: Test an age outside the range

33
Gender: m
Age: 9000
Total Cholesterol: 0
Smoke: y
HDL: 0
Systolic BP: 0
Treated or Not Treated: y
Expected: Error
Output: Error
Purpose: Test an age outside the range

34
Gender: f
Age: 45.5
Total Cholesterol: 0
Smoke: n
HDL: 0
Systolic BP: 0
Treated or Not Treated: n
Expected: <1%
Output: <1%
Purpose: Test a fractional age

35
Gender: m
Age: 79
Total Cholesterol: 160
Smoke: y
HDL: 40
Systolic BP: 120

Treated or Not Treated: y
Expected: 25%
Output: 25%
Purpose: Test values on the edge between divisions

36
Gender: 7
Age: 7
Total Cholesterol: 7
Smoke: 7
HDL: 7
Systolic BP: 7
Treated or Not Treated: 7
Expected: Error
Output: Error
Purpose: Test if the program will accept bad responses.

37
Gender: m
Age: 30
Total Cholesterol: 180
Smoke: y
HDL: 40
Systolic BP: 110
Treated or Not Treated: y
Expected: 1%
Output: 1%
Purpose: Test a semi-random value

38
Gender: f
Age: 21
Total Cholesterol: 300
Smoke: y
HDL: 60
Systolic BP: 200
Treated or Not Treated: n
Expected: 6%
Output: 6%
Purpose: Test a semi-random value

39
Gender: m
Age: Seventy Six

Total Cholesterol: One hundred and fourty
Smoke: No
HDL: Thirty Seven
Systolic BP: One hundred and two
Treated or Not Treated: No
Expected: Error
Output: Error
Purpose: Test values where the user misinterprets the instructions

40
Gender: f
Age: 65
Total Cholesterol: 1986421
Smoke: y
HDL: 5236415
Systolic BP: 13637573563
Treated or Not Treated: y
Expected: 22%
Output: 22%
Purpose: Test ridiculous but technically viable numbers