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Script started on 2023-09-26 15:21:55-05:00 [TERM="xterm-256color" TTY="/dev/pts/1" COLUMNS="97" LINES="58"]
[?2004h(base) ]0;jovyan@jupyter-tes4j: ~/OLA[01;32mjovyan@jupyter-tes4j[00m:[01;34m~/OLA[00m$ pwd
[?2004l
/home/jovyan/OLA
[?2004h(base) ]0;jovyan@jupyter-tes4j: ~/OLA[01;32mjovyan@jupyter-tes4j[00m:[01;34m~/OLA[00m$ ls [K
[?2004l
Ch2_OLA.log  Ch2_OLA.pdf  OLA1.py  ola2.log  Tax.py
[?2004h(base) ]0;jovyan@jupyter-tes4j: ~/OLA[01;32mjovyan@jupyter-tes4j[00m:[01;34m~/OLA[00m$ cat -n Tax.py
[?2004l
     1  filingStatus = int(input("Enter the filing status: "))
     2  taxableIncome = int(input("Enter the taxable income: "))
     3
     4  #Tax rates for each pay grade
     5  tax1 = .1
     6  tax2 = .15
     7  tax3 = .25
     8  tax4 = .28
     9  tax5 = .33
    10  tax6 = .35
    11
    12  #Pay ranges for each bracket (Single filing)
    13  sin1 = 8350
    14  sin2low = 8350
    15  sin2high = 33950
    16  sin3low = 33950
    17  sin3high = 85250
    18  sin4low = 85250
    19  sin4high = 171550
    20  sin5low = 171550
    21  sin5high = 372950
    22  sin6 = 372950
    23
    24  #Pay ranges for each bracket (Married filing)
    25  joint1 = 15700
    26  joint2low = 15700
    27  joint2high = 67900
    28  joint3low = 67900
    29  joint3high = 137050
    30  joint4low = 137050
    31  joint4high = 211850
    32  joint5low = 211850
    33  joint5high = 372950
    34  joint6 = 372950
    35
    36  #Check to see what the filing status is
    37  if filingStatus == 0:
    38      #Check to see if the taxable income amount is above the single first range
    39      if taxableIncome > sin1:
    40          #If so, taxAm1 will represent the tax amount for the high-bound of the Single range (1st bracket) and
multiply the tax rate to get the amount
    41          taxAm1 = sin1 * tax1
    42          if taxableIncome > sin2high:
    43              #This calculation is done because the taxable income is higher then the high-bound of the second bracket.
We will take the high-bound and subtract the low bound to find the amount to be taxed and multiply it by the tax rate
    44              taxAm2 = (sin2high - sin2low) * tax2
    45              if taxableIncome > sin3high:
    46                  #The same process will occur all the way down when the taxable income is higher then the high-bound
of each bracket
    47                  taxAm3 = (sin3high - sin3low) * tax3
    48                  if taxableIncome > sin4high:
    49                      taxAm4 = (sin4high - sin4low) * tax4
    50                      if taxableIncome > sin5high:
    51                          taxAm5 = (sin5high - sin5low) * tax5
    52                          if taxableIncome > sin6:
    53                              taxAm6 = (taxableIncome - sin6) * tax6
    54                              totalTaxes = tax6 + tax5 + tax4 + tax3 + tax2 + tax1
    55                              #This will output the total taxes
    56                              print(f'Tax is {totalTaxes:.2f}')
    57                          else:
    58                              #(This process is for all lines below) Since we know that the taxable income is NOT above the
high bound, we subtract the taxable income from the low bound of the given bracket to find the remainder. We then multiply
this remainder by the tax rate to get the amount
    59                              taxAm5 = (taxableIncome - sin5low) * tax5
    60                              totalTaxes = tax5 + tax4 + tax3 + tax2 + tax1
    61                              #This will output the total taxes
    62                              print(f'Tax is {totalTaxes:.2f}')
    63                      else:
    64                          taxAm4 = (taxableIncome - sin4low) * tax4
    65                          totalTaxes = taxAm4 + taxAm3 + taxAm2 + taxAm1
    66                          print(f'Tax is {totalTaxes:.2f}')
    67                  else:
    68                      taxAm3 = (taxableIncome - sin3low) * tax3
    69                      totalTaxes = taxAm3 + taxAm2 + taxAm1
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 70                    print(f'Tax is {totalTaxes:.2f}')
 71            else:
 72                taxAm2 = (taxableIncome - sin2low) * tax2
 73                totalTaxes = taxAm2 + taxAm1
 74                print(f'Tax is {totalTaxes:.2f}')
 75        else:
 76            taxAmount = taxableIncome * tax1
 77            print(f'Tax is {taxAmount:.2f}')
 78
 79    #Since the filing status was not 0, taxes will be calculated at a joint filing status
 80    #The same process will be followed by the pseudocode written above
 81    else:
 82        if taxableIncome > joint1:
 83            taxAm1 = joint1 * tax1
 84            if taxableIncome > joint2high:
 85                taxAm2 = (joint2high - joint2low) * tax2
 86                if taxableIncome > joint3high:
 87                    taxAm3 = (joint3high - joint3low) * tax3
 88                    if taxableIncome > joint4high:
 89                        taxAm4 = (joint4high - joint4low) * tax4
 90                        if taxableIncome > joint5high:
 91                            taxAm5 = (joint5high - joint5low) * tax5
 92                            if taxableIncome > joint6:
 93                                taxAm6 = (taxableIncome - joint6) * tax6
 94                                totalTaxes = tax6 + tax5 + tax4 + tax3 + tax2 + tax1
 95                                print(f'Tax is {totalTaxes:.2f}')
 96                            else:
 97                                taxAm5 = (taxableIncome - joint5low) * tax5
 98                                totalTaxes = tax5 + tax4 + tax3 + tax2 + tax1
 99                                print(f'Tax is {totalTaxes:.2f}')
100                        else:
101                            taxAm4 = (taxableIncome - joint4low) * tax4
102                            totalTaxes = taxAm4 + taxAm3 + taxAm2 + taxAm1
103                            print(f'Tax is {totalTaxes:.2f}')
104                    else:
105                        taxAm3 = (taxableIncome - joint3low) * tax3
106                        totalTaxes = taxAm3 + taxAm2 + taxAm1
107                        print(f'Tax is {totalTaxes:.2f}')
108                else:
109                    taxAm2 = (taxableIncome - joint2low) * tax2
110                    totalTaxes = taxAm2 + taxAm1
111                    print(f'Tax is {totalTaxes:.2f}')
112        else:
113            taxAmount = taxableIncome * tax1
114            print(f'Tax is {taxAmount:.2f}')[?2004h(base) ]0;jovyan@jupyter-tes4j: ~/OLA[01;32mjovyan@jupyter-
tes4j[00m:[01;34m~/OLA[00m$ python3.10 Tax.py
[?2004l
Enter the filing status: 0
Enter the taxable income: 100000
Tax is 21630.00
[?2004h(base) ]0;jovyan@jupyter-tes4j: ~/OLA[01;32mjovyan@jupyter-tes4j[00m:[01;34m~/OLA[00m$ python3.10 Tax.py
[?2004l
Enter the filing status: 1
Enter the taxable income: 1375 052 1
Tax is 26687.78
[?2004h(base) ]0;jovyan@jupyter-tes4j: ~/OLA[01;32mjovyan@jupyter-tes4j[00m:[01;34m~/OLA[00m$ exit
[?2004l
exit

Script done on 2023-09-26 15:22:59-05:00 [COMMAND_EXIT_CODE="0"]
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