

Answer on Question #62196, Programming & Computer Science / Python

TAX LAB

Country X calculates tax for its citizens using a graduated scale rate as shown below:

Yearly Income: 0 - 1000

Tax Rate: 0%

Yearly Income: 1,001 - 10,000

Tax Rate: 10%

Yearly Income: 10,001 - 20,200

Tax Rate: 15%

Yearly Income: 20,201 - 30,750

Tax Rate: 20%

Yearly Income: 30,751 - 50,000

Tax Rate: 25%

Yearly Income: Over 50,000

Tax Rate: 30%

Write a Python function named `calculate_tax` that will take as an argument, a dictionary containing key-value pairs of people's names as the keys and their yearly incomes as the values.

The function should return a dictionary containing key-value pairs of the same people's names as keys and their yearly tax bill as the values. For example, given the sample input below:

Answer:

The tax may be calculated by the formula:

Yearly Income: 0 – 1000; Tax: \$0

Yearly Income: 1,001 - 10,000; Tax: $(YI - \$1000) * 0.1$

Yearly Income: 10,001 - 20,200; Tax: $(YI - \$10000) * 0.15 + \900

Yearly Income: 20,201 - 30,750; Tax: $(YI - \$20200) * 0.2 + \2430

Yearly Income: 30,751 - 50,000; Tax: $(YI - \$30750) * 0.25 + \4540

Yearly Income: Over 50,000; Tax: $(YI - \$50000) * 0.3 + \9352.50

The program:

```
def calculate_tax (d):  
    for i in d:  
        if d[i] <= 1000:  
            d[i] = 0  
        elif d[i] <= 10000:  
            d[i] = (d[i]-1000) * 0.1
```

```

elif d[i] <= 20200:
    d[i] = (d[i]-10000) * 0.15 + 900
elif d[i] <= 30750:
    d[i] = (d[i]-20200) * 0.2 + 2430
elif d[i] <= 50000:
    d[i] = (d[i]-30750) * 0.25 + 4540
else:
    d[i] = (d[i]-50000) * 0.3 + 9352.5

return (d)

```

Examples:

```

print (calculate_tax ({"John": 40000, "Sarah": 20000, "Peter": 1000}))
{'John': 6852.5, 'Sarah': 2400.0, 'Peter': 0}

```

Screenshots:

```

1 ▾ def calculate_tax (d):
2 ▾     for i in d:
3 ▾         if d[i] <= 1000:
4 ▾             d[i] = 0
5 ▾         elif d[i] <= 10000:
6 ▾             d[i] = (d[i]-1000) * 0.1
7 ▾         elif d[i] <= 20200:
8 ▾             d[i] = (d[i]-10000) * 0.15 + 900
9 ▾         elif d[i] <= 30750:
10 ▾             d[i] = (d[i]-20200) * 0.2 + 2430
11 ▾         elif d[i] <= 50000:
12 ▾             d[i] = (d[i]-30750) * 0.25 + 4540
13 ▾         else:
14 ▾             d[i] = (d[i]-50000) * 0.3 + 9352.5
15 ▾     return (d)

```