

Forum:[Hack Forums](#)

Thread: [Java Tax calculator help](#)

Mordicia - November 5, 2018, 6:42 am

Can anyone help me with this code? I think it needs simplifying and re working. I can tell it doesn't work due to £160 tax comes out as £6 when it's meant to be £3.50 rounded to £4.

```
import java.util.Scanner;
public class Taxes {

    public static void main(String[] args) {
        System.out.println("What is your income?");
        int income = 100;
        Scanner sc = new Scanner(System.in);
        income = sc.nextInt();
        if (income < 100) {

            System.out.println(income%100*0);

        } else if (income >= 101 && income <= 150) {

            System.out.println(income%100*0.05);

        } else if(income >= 151 && income <= 200) {

            System.out.println(income%100*0.1);

        } else if(income >= 201 && income <= 300) {

            System.out.println(income%100*0.15);

        } else if(income >= 301 && income <= 401) {

            System.out.println(income%100*0.2);

        } else {

            System.out.println(income%100*150);
        }
    }
}
```

Mr. Miyagi - November 5, 2018, 8:14 am

looks like your math formulas could be at fault, try changing them around.

TCP - November 5, 2018, 9:01 am

```
Code else if(income >= 151 && income <= 200) {

    System.out.println(income%100*0.1);
```

}

The result of this operation $160\%100*0.1$ is indeed 6, as poster above said you have to change the math

333bitax0d9 - November 21, 2018, 8:53 am

Surly it is because you have set income to be of type int. You probably want it as a float or double instead.

Varius - November 21, 2018, 9:43 am

If you were looking to tax a percentage, like if you wanted to tax 10% off 160 pound, you can just print $160*.01$ which is 10% of 160.

If you do $160\%100$, you're returning the remainder from taking out 100 out of 160 until it can no longer take out 100 anymore.

$$160\%100 = 60.$$

$$160*.01 = 16$$

$$160\%100*0.1 \Rightarrow 60*.01 \text{ which is 10\% of 60, resulting in 6.}$$

Change the math.

it seems that you just didn't know how modulus works.

Say $10\%2$, its equal to 0, because you can keep taking 2 out of 10 until it reaches 0.

while $9\%2$ is equal to 1, because if you keep removing 2 out of 9 you'll eventually reach 1, which is lower than 2, meaning you can't take 2 from 1, meaning 1 is the remainder.

while $160\%100$, you're taking out 100 until you can't take it out anymore and return the remainder.

$$160 - 100 = 60, \text{ you can't take out 100 out of 60, so 60 is your remainder, hence } 160\%100 = 60.$$

$$260\%100 \text{ is also 60, because } 260-100 = 160, \text{ then take out 100 again, } 160-100 = 60.$$

Minesweeper - November 22, 2018, 4:41 pm

This is a big mess. Aside from your misuse of the modulus operator, your application of tax bands/brackets is fundamentally wrong. This is why you will not get the numbers you expect, even after fixing modulus.

Tax brackets are applied in stages, not all at once. If you earn £160, and the tax rate from £150-£200 is 10%, you are not taxed $£160*0.10=£16$. You are taxed 0% on the first £100, 5% on the next £50, and 10% on the remaining £10. That's $£0.00+£2.50+£1.00=£3.50$.

Taxes wouldn't make sense if they were calculated the way you're doing it.