

TaxCalculator.java

```

1 package datamanagment;
2
3 import java.util.HashMap;
4
5 public class TaxCalculator {
6     private float incomeTiers[];
7     private float fixedTaxTiers[];
8     private float percentageModifierTiers[];
9     private int maxTier;
10
11     private TaxCalculator(float incomeTiers[], float fixedTaxTiers[], float
percentageModifierTiers[]) {
12         this.incomeTiers = incomeTiers.clone();
13         this.fixedTaxTiers = fixedTaxTiers.clone();
14         this.percentageModifierTiers = percentageModifierTiers.clone();
15         maxTier = this.incomeTiers.length - 1;
16     }
17
18     private static HashMap<String, TaxCalculator> taxCategoryMap = new HashMap<String,
TaxCalculator>() {
19         private static final long serialVersionUID = 1L;
20
21         {
22             put("Married Filing Jointly",
23                 new TaxCalculator(new float[] { 0, 36080, 90000, 143350, 254240 },
24                     new float[] { 0, 1930.28f, 5731.64f, 9492.82f, 18197.69f },
25                     new float[] { 0.0535f, 0.0705f, 0.0705f, 0.0785f, 0.0985f
26                 ));
27
28             put("Married Filing Seperately",
29                 new TaxCalculator(new float[] { 0, 18040, 71680, 90000, 127120 },
30                     new float[] { 0, 965.14f, 4746.76f, 6184.88f, 9098.80f },
31                     new float[] { 0.0535f, 0.0705f, 0.0785f, 0.0785f, 0.0985f
32                 ));
33
34             put("Single",
35                 new TaxCalculator(new float[] { 0, 24680, 81080, 90000, 152540 },
36                     new float[] { 0, 1320.38f, 5296.58f, 5996.80f, 10906.19f },
37                     new float[] { 0.0535f, 0.0705f, 0.0785f, 0.0785f, 0.0985f
38                 ));
39
40             put("Head of Household",
41                 new TaxCalculator(new float[] { 0, 30390, 90000, 122110, 203390 },
42                     new float[] { 0, 1625.87f, 5828.38f, 8092.13f, 14472.61f },
43                     new float[] { 0.0535f, 0.0705f, 0.0705f, 0.0785f, 0.0985f
44                 ));
45         }
46     };
47
48     public float calculateTax(float income) {
49         int tier = maxTier;
50         while (income < incomeTiers[tier]) {
51             tier--;
52         }
53         return fixedTaxTiers[tier] + percentageModifierTiers[tier] * (income -
incomeTiers[tier]);
54     }
55
56     public static TaxCalculator getTaxCalculator(String status) {

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53     return taxCategoryMap.get(status);
54 }
55
56 public float calculateTaxIncrease(float income, float tax, float receiptsValue) {
57     float increaseTiers[] = { 0, 0.2f, 0.4f, 0.6f };
58     float percentageTiers[] = { 0.08f, 0.04f, -0.15f, -0.3f };
59     int tier = 3;
60     while (receiptsValue < increaseTiers[tier] * income) {
61         tier--;
62     }
63     return tax * percentageTiers[tier];
64 }
65 }
66
```