# Phase 2, Option 1 — Mortgage Calculator

## Due as stated by Dr. V

Overview

Implement a mortgage calculator via an app or web-app.

**Required Features**

Your app should, based on the mortgage data entered by the user, compute and show the amortization table and the amount of money saved by extra payments (cf. screenshots). Mortgage data should include: customer name, name of this mortgage configuration (e.g. smaller down-payment), mortgage amount, down-payment amount or percentage, interest rate, loan duration (10/15/20/30 years), any additional payments per month, any additional payments per year. In case of additional principal payments, the tool should display the amount of interest saved over the life of the loan and how many months (or years) those extra payments will shave off the total life of the loan (see associated screenshots).

**Optional Features**

* +10 points if your mortgage calculator supports the ability to **compare at least two** different mortgages for any given customer.
* +10 points if your tool also allows the user to visualize the data in one or more relevant diagrams (can be done client side or server side).

Scoring Rubric (out of 100)

|  |  |
| --- | --- |
| 80 | Tool functions well and implements all of the **required** features listed above.  Data is well organized, and options (in terms of actions the user can perform) are easy to understand, work reliably and correctly. |
| +10 points | If your mortgage calculator supports the ability to **compare at least two** different mortgages for any given customer. |
| +10 points | Tool allows the user to visualize the data in one or more relevant **diagrams** (can be done client side or server side). |

Constraints

You do NOT need to worry about security for this tool (i.e. no username/password stuff).

Save ALL of your thoughts, plans, designs, drawings, code (multiple snapshots of your code). Periodically, but at least three times per week, reflect on your current thinking and decisions (at least one paragraph, on paper or electronically).

**Deliverables**

Provide a 4-6-page handout (2-3 sheets of paper back-to-back) that contains screenshots of the key features of your tool, key snippets of code, an explanation of the design and language/framework features you’re leveraging, and of course your lessons learned (plans, successes, mistakes, improvements).

Background & Resources

1. See Android app such as [Karl’s Mortgage Calculator](https://play.google.com/store/apps/details?id=com.drcalculator.android.mortgage&hl=en) or next page for iOS screenshots.
2. Extra payment calculator example (user interface & design is questionable though):  
   <http://www.free-online-calculator-use.com/extra-payment-mortgage-calculator.html>

Sample Screenshots (iOS devices)

