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| Student Loan Simulator |
| Design Notes |

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# Overview & Scope

This document contains freeform design notes. Most if not all the ideas covered here should be covered in the source documentation.

# Loan Input

## Format of Loan File

## Loan Object

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| --- | --- | --- | --- | --- | --- |
|  | Field | Type | Init Value | Description | |
| Static Values | Lender | String | Parse From File | Name of Lender. Used for logging. | |
| Account Number | String | Parse From File | Used for logging. | |
| APR | Float | Parse From File | Annual Percentage Rate. | |
| Minimum Payment | Float | Parse From File | Minimum payment required each month | |
| Payment Start Date (Mo/Yr) | Date | Parse From File |  | |
| Status Flags | In Repayment | Bool | False | Is the loan currently in repayment |
| Status Flags | Paid Off | Bool | False | Has the loan been paid off |
| Runtime Variables | Principle | Float | Starting Principle From File | Current principle remaining. Initial value parsed from loan file. |
| Runtime Variables | PaymentLocked | Bool | True | All payment attempts made while paymentLocked == true result in an error.  At the True -> False transition, all payment trackers are cleared (Payment, Interest, PrincipleReduction). |
| Runtime Variables | Payment | Float | 0.0 | This Month’s Payment (Total) |
| Runtime Variables | Interest | Float | 0.0 | This Month’s Payment (Interest Only) |
| Runtime Variables | PrincipleReduction | Float | 0.0 | This Month’s Payment (Principle Only) |

# Payment Input

For Simplicity, the total payment amount made to all loans is specified. Future versions may expand this allowing more granular control over payments to individual loans.

A check will be made each month to ensure the total payment amount (moneypot) covers the minimum payments for all applicable loans.