

Spring '12

Loan amount

Interest-rate

monthly-interest-rate

monthly-payment

variables?

→ balance

total-interest, ~~total~~ months, monthly-interest, principal,
Phase 1:

loop body

```
month-interest-rate = Interest-rate / 12;  
monthly-interest (←) = balance * monthly-interest-rate;  
get total-interest += monthly-interest; * total-interest = total-interest + monthly-interest;  
get principal = monthly-payment - monthly-interest;  
get balance == balance - principal; * balance = principal;
```

Phase 2: * Initialize variables */

total-interest ← 0;

total-months ← 0;

input (loan-amount) ← balance; /* loan-amount

input Interest-rate per year;

input monthly-payment;

while (balance > 0)

②? total-months
← total-months + 1;

last-payment

if (balance > monthly-payment)

monthly-interest ← _____;

total-interest ← _____;

principal ← _____;

balance ← _____; /* update balance

} else { /* balance ≤

monthly-interest ←

total-interest ← monthly-interest +

last-payment ← balance;

print balance, monthly-payment,
rate, interest, principal,
total-interest, total-months