double amount = 100.0;
for (int day = 1; day <= 3; day++)
    amount -= food;

What we know...
amount = 100 - (day-1)food \leq \text{before it}

amount = amount \times \text{food}
day = day + 1

We know...
amount^+ = 100 - (day^+ - 1)food
amount^- = amount^- \times \text{food}
day^- = day^- + 1

Want to show
L. amount^+ = 100 - (day^+ - 1)\text{food}
R.

Let:
amount^+ = amount^- \times \text{food}
= (100 - (day^- - 1)\text{food}) \times \text{food}
= 100 - day^- \text{food} - \text{food} - \text{food}

Right:
100 - (day^+ - 1)\text{food} = 100 - ((day^- + 1) - 1)\text{food}
= 100 - (day^-)\text{food}