

```
1 // Calculate the number of pennies someone would have if
2 // their change doubled every day for a month
3 #include <cs50.h>
4 #include <math.h>
5 #include <stdio.h>
6
7 int main(void)
8 {
9     // Get a starting penny value (note* can't have negative pennies to start)
10    // Use a long long to prevent overflow
11    long long pennies;
12    do
13    {
14        pennies = get_int("Number of pennies to start: ");
15    }
16    while(pennies < 0);
17
18    // Get the number of days in a month [28, 31]
19    int days;
20    do
21    {
22        days = get_int("Number of days in month: ");
23    }
24    while (days < 28 || days > 31);
25
26    // Double the number of pennies for each of the days
27    //  $A = P * (1 + r)^t$ 
28    pennies = pennies * pow(2, days);
29
30    // Print the number of pennies after the month
31    printf("You will have %lli pennies after one month!\n", pennies);
32 }
```