



How Many Ways to Make Change?

Problem #11

Novice / Advanced

12 points

C programmers: your program name must be: prob11.exe
JAVA programmers: your program name must be: Prob11.class

Task Description

Did you know there are 292 different ways to make change for a dollar? Yes, using a combination of half-dollars, quarters, dimes, nickels, and pennies, there are really that many!

Your task is to write a program to determine how many different ways there are to make change for any amount between \$0.01 and \$10.00. Your solution must allow for the use of half-dollars (\$0.50), quarters (\$0.25), dimes (\$0.10), nickels (\$0.05) and pennies (\$0.01). Note that the order of the coins used does not matter (two dimes and a nickel is the same way as a nickel and two dimes), and therefore each combination is only counted once.

Program Input

Your program must prompt for the amount of money to count. For simplicity, the amount will be entered as the number of cents to count, between 1 and 1000 (which equates to \$0.01 to \$10.00).

Program Output

Your program must output to the screen the total number of coin combinations that can produce the desired amount.

Sample Program Input / Output

```
Enter amount of change to make (in cents): 100
```

```
There are 292 ways to make change for $1.00
```

```
Enter amount of change to make (in cents): 10
```

```
There are 4 ways to make change for $0.10
```

```
Enter amount of change to make (in cents): 4
```

```
There are 1 ways to make change for $0.04
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