1-G-Coin Problem

Aim:

Write a program to take value V and  we want to make change for V Rs, and we have infinite supply of each of the denominations in Indian currency, i.e., we have infinite supply of { 1, 2, 5, 10, 20, 50, 100, 500, 1000} valued coins/notes, what is the minimum number of coins and/or notes needed to make the change.

Input Format:

Take an integer from stdin.

Output Format:

print the integer which is change of the  number.

Example Input :

64

Output:

4

Explanaton:

We need a 50 Rs note and a 10 Rs note and two 2 rupee coins.

Algorithm:

 Read the integer value v using scanf.

 Initialize a counter c = 0 to count the total number of currency units.

 While v != 0, use nested loops to reduce v by the largest possible denominations (1000, 500, 100, 50, 20, 10, 5, 2, 1).

 In each loop, increment c for every subtraction of the denomination from v.

 Continue the process until v becomes 0.

 Print the value of c, which represents the minimum number of units required.

 End the program.

Code:

#include <stdio.h>

int main()

{

int v,c=0;

scanf("%d",&v);

while(v!=0)

{

while(v>=1000)

{

c+=1;

v=v-1000;

}

while(v>=500)

{

c+=1;

v=v-500;

}

while(v>=100)

{

c+=1;

v=v-100;

}

while(v>=50)

{

c+=1;

v=v-50;

}

while(v>=20)

{

c+=1;

v=v-20;

}

while(v>=10)

{

c+=1;

v=v-10;

}

while(v>=5)

{

c+=1;

v=v-5;

}

while(v>=2)

{

c+=1;

v=v-2;

}

while(v>=1)

{

c+=1;

v=v-1;

}

}

 Output:

|  | **Input** | **Expected** | **Got** |  |
| --- | --- | --- | --- | --- |
|  | 49 | 5 | 5 |  |

Passed all tests!

**Correct**

Marks for this submission: 1.00/1.00.

Result:

The expected output was obtained