Multiply a given Integer with 3.5

Given a integer x, write a function that multiplies x with 3.5 and returns the integer result. You are not allowed to use %, /, *.

Examples:
Input: 2
Output: 7

Input: 5
Output: 17 (Ignore the digits after decimal point)

Solution:
1. We can get x*3.5 by adding 2*x, x and x/2. To calculate 2*x, left shift x by 1 and to calculate x/2, right shift x by 2.

```
#include <stdio.h>

int multiplyWith3Point5(int x)
{
  return (x<<1) + x + (x>>1);
}

/* Driver program to test above functions*/
int main()
{
  int x = 4;
  printf("%d", multiplyWith3Point5(x));
  getchar();
  return 0;
}
```


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2. Another way of doing this could be (8*x – x)/2 (See below code). Thanks to ajaym for suggesting this.

```
#include <stdio.h>
int multiplyWith3Point5(int x)
{
  return ((x<<3) - x)>>1;
}
```

Please write comments if you find the above code/algorithm incorrect, or find better ways to solve the same problem

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Ankit • 5 months ago

Why not, (x<<2)-(x>>1)

Tanish Gupta • 10 months ago

//this can also be done by.
#include <stdio.h>

int multiplyWith3Point5(int x).
{
return (((x >> 1) << 3) - (x >> 1));.
}

/* Driver program to test above functions*/.
int main()
{
int x = 4;.
printf("%d", multiplyWith3Point5(x));.
getchar();.

}

/*that is first calclulating x/2 which is x>>1 then multiplying it with 7.
and to multiply number with 7 just use this (x << 3) - x.
so final expression become (((x>>1) << 3) - (x>>1) */.

Kirt • 2 years ago

i think, we can also use
(n<>1|1)
plz correct me, if i am wrong..

```
/* Paste your code here (You may delete these lines if not writing c
```

kirt ➚ Kirt • 2 years ago

return n<>1)|1)

Kirt ➚ kirt • 2 years ago

Sry, The shift operator are not displayed properly ..

so here is d logic..
(right shift the 'n' by 2 bit)-(left shift the 'n' by 1 bit and take it OI

plz correct me if i am wrong

Kirt ➚ Kirt • 2 years ago

sry guys.. a lot of confusion over here..

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(left shift the 'n' by 2 bit)-(right shift the 'n' by 1 bit and ta

anan ➚ kirt • 2 years ago

return n<<<>>>1)|1)

Anand • 3 years ago

simple we can do:
return ((x<>1));

Anand ➚ Anand • 3 years ago

(x<>1)

Amit • 3 years ago

Why are we not doing this way :)

```
int multi3_5(int x)
{
x*3.5;
}
```

hari6988 ➚ Amit • 3 years ago

the question clearly says that u are not allowed to use * operator

Nick • 4 years ago

we can do it without using + and - operator.....

here's the code

```
 int add(int m, int n);
int main()
{
        int n,d,e,f;
        scanf("%d",&n);
        d=n<>1;
        f=add(d,e);
        printf("%d\n",add(f,n));
        return 0;
}
int add(int m,int n)
{
        int c;
        while(m&n)
        {
```

see more

wav • 4 years ago

return (n>>3 -n)>>1;

hariom • 4 years ago

Any way to print the output including digits after decimal point ?

Venki ➚ hariom • 4 years ago

Explore IEEE 754 floating point format.

padhu • 4 years ago

can also be done by 4x-x/2

kirt padhu • 2 years ago

n<>1)|1)

```
/* Paste your code here (You may delete these lines if not wri
```

Prem padhu • 4 years ago

Hey, look at the problem statement dude, you cant use '/'

Venki Prem • 4 years ago

Hi Prem, They are not using / operator. They are trying to repre
powers of 2. So that, the expression can be implemented as sh

Ravi Chandra Venki • 4 years ago

(4x-x)/2 can be implemented as follows without using *

x= ((x<>1;

ravikant Ravi Chandra • 4 years ago

Dude common you have a year to go !!

Ravi Chandra Ravi Chandra • 4 years ago

here is the line of code

x= ((x<<2)-x)>>1;

Shekhu padhu • 4 years ago

This approach gives 18 for x = 5, but the expected output is 17 :)

ajaym • 4 years ago

Can also be achieved by (8x-x)/2

GeeksforGeeks ajaym • 4 years ago

@ajaym: Thanks for suggesting a new method. We have included it to

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