

## 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  $x \times 3.5$  by adding  $2 \times x$ ,  $x$  and  $x/2$ . To calculate  $2 \times x$ , 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;
}
```

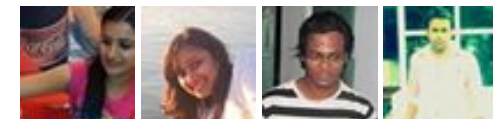
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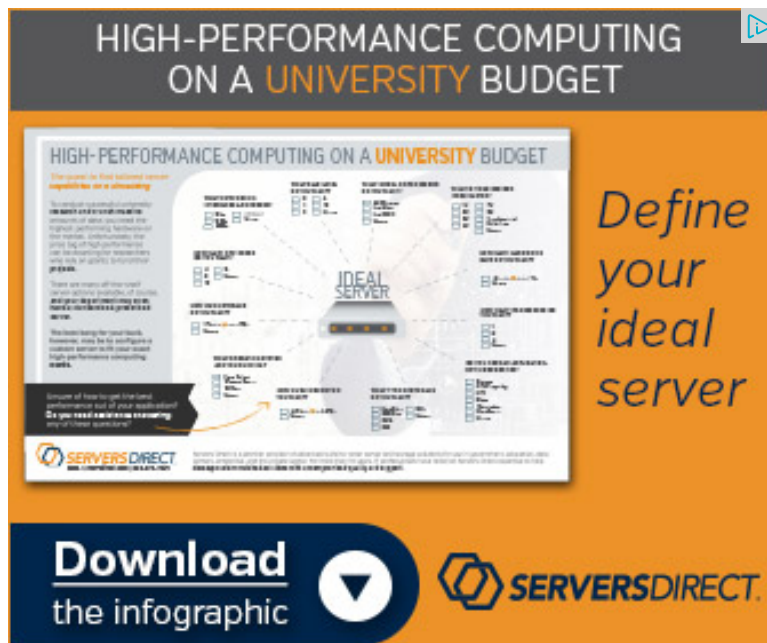
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2. Another way of doing this could be  $(8*x - x)/2$  (See below code). Thanks to [ajaym](#) for suggesting this.

```
#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,  $(x \ll 2) - (x > 1)$

^ | v .



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 calculating  $x/2$  which is  $x \gg 1$  then multiplying it with 7.  
and to multiply number with 7 just use this  $(x \ll 3) - x$ .  
so final expression become  $((x \gg 1) \ll 3) - (x \gg 1) * /$ .

^ | v .



**Kirt** · 2 years ago

i think, we can also use  
 $(n \ll 1) | 1$   
plz correct me, if i am wrong..

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

^ | v .



**kirt** → Kirt · 2 years ago

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

^ | v .



**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

^ | v .



**Kirt** → Kirt · 2 years ago

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

705



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

^ | v .



**anan** → kirt · 2 years ago

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

^ | v .

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**Anand** · 3 years ago

simple we can do:

return ((x<>1));

^ | v .



**Anand** → Anand · 3 years ago

(x<>1)

^ | v .



**Amit** · 3 years ago

Why are we not doing this way :)

int multi3\_5(int x)

{

x\*3.5;

}

^ | v .



**hari6988** → Amit · 3 years ago

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

^ | v .



**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

^ | v .



wav · 4 years ago

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

^ | v .



hariom · 4 years ago

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

^ | v .



Venki → hariom · 4 years ago

Explore IEEE 754 floating point format.

^ | v .



**padhu** · 4 years ago

can also be done by  $4x-x/2$

^ | v ·



**kirt** → padhu · 2 years ago

$n < > 1 | 1$

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

^ | v ·



**Prem** → padhu · 4 years ago

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

^ | v ·



**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 st

^ | v ·



**Ravi Chandra** → Venki · 4 years ago

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

```
x= ((x<>1;
```

^ | v ·



**ravikant** → Ravi Chandra · 4 years ago

Dude common you have a year to go !!

^ | v ·



**Ravi Chandra** → Ravi Chandra · 4 years ago

Sorry, in my previous comment shift operators did not work  
here is the line of code

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

^ | v .



**Shekhu** → padhu · 4 years ago

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

^ | v .



**ajaym** · 4 years ago

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

^ | v .



**GeeksforGeeks** → ajaym · 4 years ago

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

^ | v .



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