Multiply two integers without using multiplication, division and bitwise operators, and no loops

Asked by Kapil

By making use of recursion, we can multiply two integers with the given constraints.

To multiply x and y, recursively add x y times.

Thanks to geek4u for suggesting this method.

```
#include<stdio.h>
/* function to multiply two numbers x and y*/
int multiply(int x, int y)
{
   /* 0  multiplied with anything gives 0 */
   if(y == 0)
     return 0;

   /* Add x one by one */
   if(y > 0 )
     return (x + multiply(x, y-1));

  /* the case where y is negative */
   if(y < 0 )
     return -multiply(x, -y);
}

int main()
{
  printf("\n %d", multiply(5, -11));
  getchar();
  return 0;
}
```

Time Complexity: O(y) where y is the second argument to function multiply().