//POWER FUNCTION

#include<stdio.h>

int pow1(int x,int y)

{

int result=1;

while(y>0)

{

result=result\*x;

}

return result;

}

int no\_ofDigits(int x,int y)

{

int temp;

if(x>y)

temp=x;

else

temp=y;

int count=0;

while(temp>0)

{

temp=temp/10;

count=count+1;

}

return count;

}

int product(int x,int y)

{

int n=no\_ofDigits(x,y);

int a1,a0,b1,b0,c1,c2,c3;

int r=n/2;

if(n==1)

return x\*y;

else if(x==0||y==0)

return 0;

else

{

int z=pow1(10,r);

a1=x/z;

a0=x%z;

b1=y/z;

b0=y%z;

c1=product(a1,a0);

c2=product(b1,b0);

c3=product((a1+a0),(b1+b0))-(c1+c3);

return ((c1\*pow1(10,2\*r))+(c2\*pow1(10,r))+c3);

}

}

void main()

{

int n,x,y;

printf("Enter the value of x");

scanf("%d",&x);

printf("Enter the value of y");

scanf("%d",&y);

printf("The product is %ld",product(x,y));

}