Assignment 13

①
```
int firstN(int n)
  {

int sum;
if(n==1)
  return 1;
sum = firstN(n-1) + n;
return sum;

}
```

① first(3) = 1+2+3 = 6
② first(2) = 1+2 = 3
sum = first(n-1) + n;
③ if(n==1)
return 1;
sum = first(n-1) + n;
return sum;

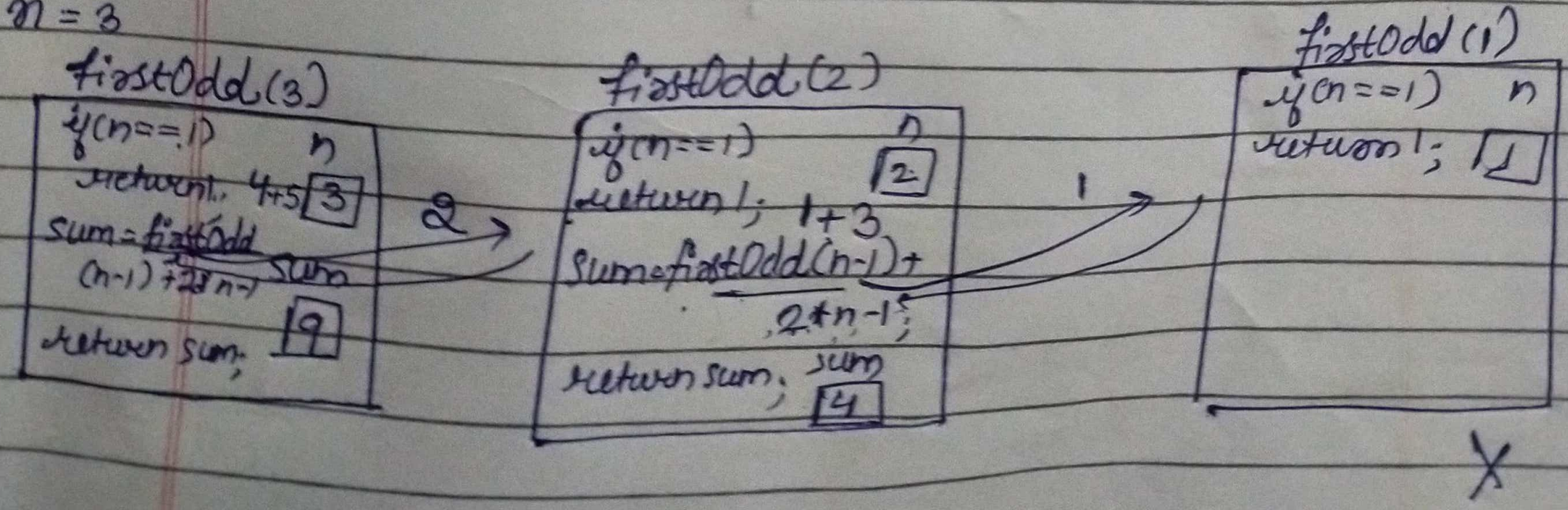
②
```
int firstOdd(int n)
  {

int sum;
if(n==1)
  return 1;
sum = firstOdd(n-1) + 2*n-1;
return sum;

}
```

① firstOdd(3) = 1+3+5 = 9
② firstOdd(2) = 1+3 = 4 + 2*n-1;
sum = firstOdd(n-1) + 2*n-1
③ if(n==1)
return 1;
sum = firstOdd(n-1) + 2*n-1;
return sum;

n = 3



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③
```
int sumOffirstEven(int n)
{
  int sum;
if(n==1)
  return 2;
sum = sumOffirstEven(n-1)+
                    2*n;
return sum;
}
```

① sumOfFirstEven(3)
= 2 + 4 + 6 = 12

② sumOffirstEven(2)
= 2+4 = 6

```
sum= sumOffirstEven(n-1) + 2*n;
```

③ if(n==1)
return 2;

④
```
int sumOfSquares(int n)
{
  int sum;
if(n==1)
  return 1;
sum = sumOfSquare(n-1)+n*n;
return sum;
}
```

① sumOfSquares(3)
= 1 + 4 + 9 = 14

② sumOfSquares(2)
= 1 + 4 = 5 + n*n

```
sum= sumOfSquares(n-1) + n*n;
```

if(n==1)
return 1;

(5)
```
int sumOfdigits (int number)
{
int sum;
if (number == 0)
    return 0;
sum = sumOfdigits (number/10) +
        number % 10;
return sum;

}
```

①
sumOfdigits (123) = 1+2+3=6
②
sumOfdigits (12) = 1+2=3

sum = sumOfdigits (n/10)+n%10

③ if (n==0)
    return 0;

(6)
```
int fact (int n)
{

if (n==1)
    return 1;
return n*fact(n-1);

}
```

①int fact (int 5)
= 5x4x3x2x1 = 120

② int fact (4)
= n*4x3x2x1=24
n* fact (n-1);

③ if (n==1)
return 1;

(7) ~~int findHCF(int,int);~~

```
int findHCF(int n1, int n2, int i, int d)
  {
if((n1%i==0)||(i==n2+1))
  return d;
if((n1%i==0)&&(n2%i==0))
  d= d>i?d:i;
return findHCF(n1, n2, i+1, d);
}
```

(9)
```
int countDigits(int number, int count)
  {
if(number>0)
  {
  count = count+1;
return countDigits(number/10, d);
  }
else return d;
}
```

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(10)
```
void printfib(int n, int a, int b)
  {

if(n>0)
    {
c=a+b;
a=b;
b=c;
printf("%d ", a);
 printfib(n-1, a, b);

    }

}
```