C, C++, DSA in depth

Doubt class assignment-17

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(1)

① SumN(n) $1 + 2 + 3 + \ldots (n-1) + n$

② n + SumN(n-1) $1 + 2 + 3 + \ldots + (n-1)$ $+ n$

③ n == 1   1

②

① SumOddN(n) $1 + 3 + 5 + \ldots$ n terms

② SumOddN(n-1) $1 + 3 + 5 + \ldots$ (n-1) terms
    $+ (2 \times n - 1)$

③ n == 1   1

x

2456

① sumdigits(x) $2+4+5+6$

② sumdigits($x/10$) $2+4+5$

      $+$ $x\%10$

③ $x == 0$

(7)

a   b   HCF
270   70

① hcf (a , b)

② if (a > b)

$\quad$ hcf(a%.b , b)

else

$\quad$ hcf(a , b%a)

```
int hcf(int a, int b)
{    if (a>b)
     {    if (a%.b==0)
               return b;
          else
               return hcf(a%.b,b);
     }
     else
     { if (b%.a==0)
               return a;
          else
               return hcf(a,b%.a);
     }
}
```

③   a%.b == 0   b

$\quad$ or

$\quad$ b%.a == 0   a

270 , 70

60 , 70

60 , 10

10

⑧ print fibonacci Series

0	1	2	3	4	5	6	7	8	9	10	11	12
0	1	1	2	3	5	8	13	21	34	55	89	144

```
void printfib(int n)
{


}
```

① printfib (10)   0 1 1 2 3 5 8 13 21 34 55

② printfib (9)   0 1 1 2 3 5 8 13 21 34

   printf("%d", fib(10));   55

③ printfib (0) ⟶ 0

(9)

① countDigits(2458)   4
② countDigits(245)   3
              +1
③ countDigits(0)   0

(10)

x^y

① power (x, y)   x * x * x * .... y times

② x * power (x, y-1)   x * x * x * ..(y-1) times
                          * x

③ power (x, 0)   1