C, C++, DSA in depth

Doubt class assignment-10

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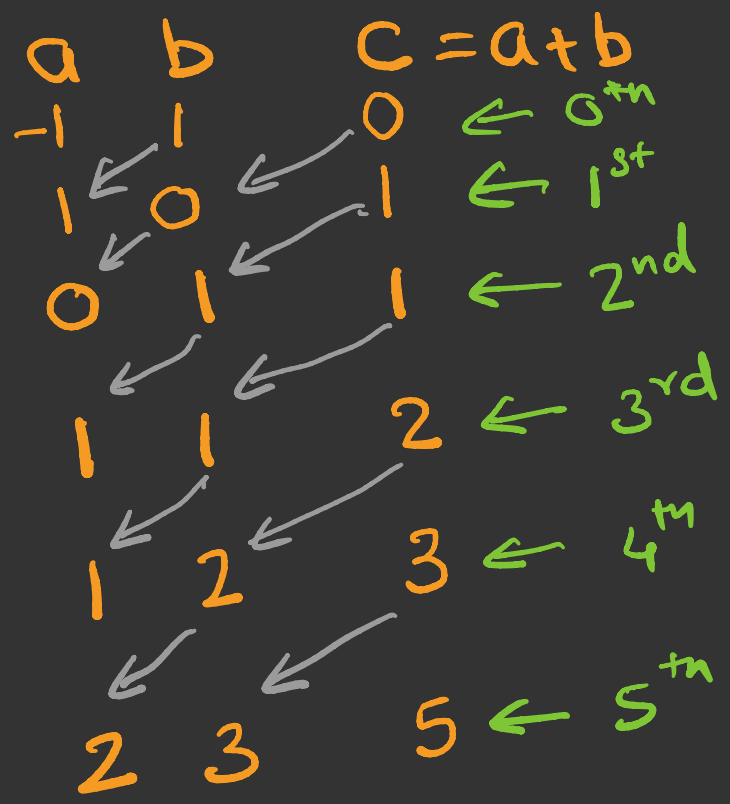
Fibonacci Series

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

Ass-10

Q-1

Find N^{th} -term.




```
int a=-1, b=1 , c, n, i;
printf("Enter a numbei");
scanf("%d",&n);
for(i=0; i<=n ; i++)
{
    c=a+b;
    a=b;
    b=c;
}
printf("%d", c);
```

Ass-10
Q. 2

```
int a=-1, b=1 , c, n, i;
printf("Enter a number");
scanf("%d",&n);
for(i=0; i<=n ; i++)
{
    c=a+b;
    printf("%d  ", c);
    a=b;
    b=c;
}
```

Ass-10
Q.3

```
int x, a=-1, b=1, c
printf("Enter a number");
scanf("%d", &x);

for(i=0;        ; i++)
{
    c=a+b;
    if (c==x)
    {   printf("%d is %d term in the series", x, i);
        break;
    }
    if (c>x)
    {   printf("%d is not in the series", x);
        break;
    }
   a=b;
   b=c;
}
```

Assig-10

Q.4

HCF

a b

H

8	12
8	12
4	6
2	4
1	3
	2
	1

HCF →

```
for(H= a<b?a:b; H>=1 ; H--)

if (a%H==0&& b%H==0)
    break;

printf("HCF is %d",H);
```

Ass-10
Q.5

Co-prime

a b

if HCF of a and b is 1, then a & b are coprime number

e.g. 8, 15

8 → 8 4 2 1

15 → 15 5 3 1

```
if (H==1)
    printf("Co Prime ");
```

Ass-10
Qd.6

```
int l, u, x, i;
l=2;
u=100;
for(x=l ; x<=u; x++)
{
    for(i=2; i<x; i++)
        if(x % i==0)
            break;

    if( i==x)
        printf("%d ", x);

}
```

x = 2 100

Ass-10
Q. 7

```
int a, b, x, i;
printf("Enter two number");
scanf("%d %d",&a ,&b);
for(x=a ; x<=b; x++)
{
    for(i=2 ; i<x; i++)
        if(x % i==0)
            break;

    if( i==x)
        printf("%d ", x);

}
```

Ass-10
Q.8

Next Prime

n = 8	n = 11	n = 12	n = 13
11	13	13	17

```
printf("Enter a number");
scanf("%d", &n);
for(x=n+1;   ; x++)
{
    for(i=2; i<x; i++)
        if(x%i==0)
            break;
    if(i==x)
    {
        printf("Next Prime number is %d", x);
        break;
    }
}
```

Ass-10
Q.9

Armstrong

x is a number with n digits and digits in x are $d_1\ d_2\ d_3 \ldots d_n$

if $d_1^n + d_2^n + d_3^n + \ldots d_n^n = x$

then x is an Armstrong number

example

$x = 123 \quad n = 3 \quad d_1 = 1 \quad d_2 = 2 \quad d_3 = 3$

$1^3 + 2^3 + 3^3$

$1 + 8 + 27$

$36 \neq x$

123 is not an Armstrong number

```
printf("Enter a number");
scanf("%d",&x);
y=x;
while(y)
{
    y=y/10;
    n++;
}
```