Everything about number theory : Chapter 7 of given pdf (the art and craft of Problem solving)

Prime : <http://www.shafaetsplanet.com/?p=624> (bangla)

<https://www.geeksforgeeks.org/sieve-of-eratosthenes/> (English)

Division Algorithm : <https://brilliant.org/wiki/division-algorithm/>

GCD: <https://www.geeksforgeeks.org/c-program-find-gcd-hcf-two-numbers/>

LCM: <https://www.geeksforgeeks.org/program-to-find-lcm-of-two-numbers/>

Prime factorization: <https://www.geeksforgeeks.org/prime-factor/>

**GCD:**

int gcd(int a,int b){

if(b==0)

return a;

else

return gcd(b , a%b);

}

**Prime generator:**

int prime[MAX]={0};

void isPrime()

{

int i,j;

for(i=2;i\*i<MAX;i++)

if(!prime[i])

for(j=i\*i;j<=MAX;j+=i)

prime[j]=1;

}

for(int i=2;i<=MAX;i++){

if(mark[i]==0)

prime.push\_back(i);

}

**Prime Factorization:**

map<int,int>primeFactorize(int n) {

map<int,int>mp;

for(int i=0; i<prime.size() && prime[i]\*prime[i] <= n; i++) {

while(n%prime[i]==0) {

n/=prime[i];

mp[prime[i]]++;

}

}

if(n>1) {

mp[n]++;

}

return mp;

}