Algorithm Cheat sheet

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**1. Seive Algorithm for generating prime number from 0 to n**

* Take a boolean array

primeCheck[ n+1]

* Set value of all indices true

setAllElements(prime)=true

* Mark the prime numbers

for i=2 ; i\*i<=n ; i++

if (primeCheck[n+1])

for j=i\*i ; j<=n ; j+=I

//mark all numbers which are multiple of i

primeCheck[j]=false;

* Now we can use a new list/array/vector to store the prime numbers by checking primeCheck array by checking the value of indices

**Note: use bitset in cpp**

**2. Fibonacci**

lli fibonacci (lli n){

//cout<<n<<" ";

if (n==0 || n==1) return n;

if(n>1) return fibonacci(n-1)+fibonacci(n-2);

else return 0;

}

**3. Factorial**

lli factorial (lli n){

if (n==0) return 1;

return n\*factorial(n-1);

//if n is negative then undefined

}