Laboratory No 3

Subject: Empirical analysis of algorithms for obtaining Eratosthenes Sieve.

**BASIC TASK**:

1 Implement the algorithms listed below in a programming language

2 Establish the properties of the input data against which the analysis is performed

3 Choose metrics for comparing algorithms

4 Perform empirical analysis of the proposed algorithms

5 Make a graphical presentation of the data obtained

6 Make a conclusion on the work done.

**Algorithm 1**

c[1] = false;

i=2;

while (i<=n){

if (c[i] == true){

j=2\*i;

while (j<=n){

c[j] =false;

j=j+i;

}

}

i=i+1;

}

**Algorithm 2**

C[1] =false;

i=2;

while (i<=n){

j=2\*i;

while (j<=n){

c[j] =false;

j=j+i;

}

i=i+1;

}

**Alghorithm 3**

C[1] = false;

i=2;

while (i<=n){

if (c[i] == true){

j=i+1;

while (j<=n){

if (j % i == 0) {

c[j] = false;

}

j=j+1;

}

}

i=i+1;

}

**Algorithm 4**

C[1] = false;

i = 2;

While (i<=n){

j=1;

while (j<i){

if ( i % j == 0)

{

c[i] = false

}

j=j+1;

}

i=i+1;

}

**Alghoritm 5**

C[1] = faux;

i=2;

while (i<=n){

j=2;

while (j<=sqrt(i)){

if (i % j == 0) {

c[i] = false;

}

j++;

}

i++;

}