Algorithm
Lab task

Task - 5: Fibonacci number

```c
#include <stdio.h> int
fibonacci(int n){
        if(n <= 1)
                return n;
        return fibonacci(n - 1) + fibonacci(n - 2);
}
int main(){   int n;
scanf("%d", &n);
printf("%d\n", fibonacci(n));
return 0;
}
```

Task - 6:Last digit of a large Fibonacci number

```c
#include <stdio.h> int
main(){      int n;
scanf("%d", &n);
```

```c
int F[n + 1];        F[0]
= 0;
       F[1] = 1;
       for(int i = 2; i <= n; i++)        F[i] =
(F[i - 1] + F[i - 2]) % 10;
printf("%d\n", F[3]);       return 0;
}
```

Task 7: Greatest Common Divisor

```c
#include <stdio.h> int
gcd(int a, int b){
       if(b == 0)
              return a;
       return gcd(b, a % b);
}
int main(){
       int a, b;       scanf("%d
%d", &n, &b);
printf("%d\n", gcd(a, b));
return 0;
}
```

Task 8: Least Common Multiple

```c
#include <stdio.h> int
gcd(int a, int b){
        if(b == 0)
                return a;
        return gcd(b, a % b);
} int lcm(int a, int
b){
        return a * b / gcd(a, b);
}
int main(){
        int a, b;      scanf("%d
%d", &n, &b);
printf("%d\n", lcm(a, b));
return 0;
}
```

Selection sort

```c
#include <stdio.h>
int main(){
    int n;
    scanf("%d", &n);
    int arr[n];
    for(int i = 0; i < n; i++)
        scanf("%d", &arr[i]);
    for(int i = 0; i < n-1; i++) {
        int idx = i;
        for (int j = i+1; j < n; j++)
            if (arr[j] < arr[idx])
                idx = j;
        if(idx != i){
            int temp = arr[i];
            arr[i] = arr[idx];
            arr[idx] = temp;
        }
    }
    for(int i = 0; i < n; i++)
        printf("%d ", arr[i]);
    return 0;
}
```

Insertion Sort

```c
#include <stdio.h>
int main(){
    int n;
    scanf("%d", &n);
    int arr[n];
    for(int i = 0; i < n; i++)
        scanf("%d", &arr[i]);
    for (int i = 1; i < n; i++){
        int flag = arr[i];
        int j = i - 1;
        while (j >= 0 && arr[j] > flag) {
            arr[j + 1] = arr[j];
            --j;
        }
        arr[j + 1] = flag;
    }
    for(int i = 0; i < n; i++)
        printf("%d ", arr[i]);
    return 0;
}
```