Task-2

Impletation-1

```
def fibonacci_1(n):
    if n<= 0:
        print("Invaild input!")          # — c1
    elif n<= 2:
        return n-1                       — c2
    else:
        return fibonacci_1(n-1)+fibonacci_1(n-2)

n= int(input("Enter a number!"))         - c3
nth_fib = fibonacci_1(n)                 - c4
print("The %d-th fibonacci is %d"%(n, nth_
                                         - c5
```

$n = c_1 + c_2 + c_3 + c_4 + c_5$

$=$

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Impletation No. 2

```
def fibonacci_2(n):
    fibonacci_array = [0,1]
    if n<0:
        print("Invaild input!") - c1
    elif n<=2:
        return fibonacci_array[n-1] - c2
    else:
        for i in range(2,n):  - c - n
            finbonacci_array.append(f_arra[i+1] + fi_array[i-2]
                                    - c2
n = int(input("Enter a number: ")) - c4
nth_fib = fibonacci_2(n)  - c5
print("The %d-th fibonacci number is %d" %(n, nth_fib)
                                        c6
```

(2) $T(n) = c_1 + c_2 + c_2 + c_3 + c_4 + c_5 + 2(n)$

$O(n) = n$

$= O(n)$

Task- 4

```
for i = 0 to n-1 — n
    for j = 0 to n-1 — n
        for k = 0 to n-1 — n
            C[i, j] += A[i, k] * B[k, j]
```

$= O(n^3)$