

## Problem statement:

number & find it's step count.

## objective:

fibonacci number are used throughout society

It is astonishing how these sets of

never- ending numbers are used in various

ways

fibonacci numbres are very unique compared to the other moutematical subjects.

## Theory 8-

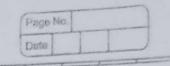
fibonacci Numbers:

The fibonocci frequency is a set of itegers that start with zero followed by an one by another one of then by a server of skopily in creasing numbers. There sequence follows the rule that each number is equal to the sum of the preceding two numbers:

The fibonacci sequence begins with the following 14 integers:

0,1,2,3,5,8,13,21,34 ---

Calculating the Fibonacci requence!



The fiboracci sequence can be calculating mathematically on this approach each a term which the sequence is considered of term which is represented by the Expression function:

The 'n' reflects the number position in the sequence stearting with zero for example, the sixth team is refrested to 03 fs & the seventh term is refrested to 03 f6.

FO-0 capplies only to First integer)

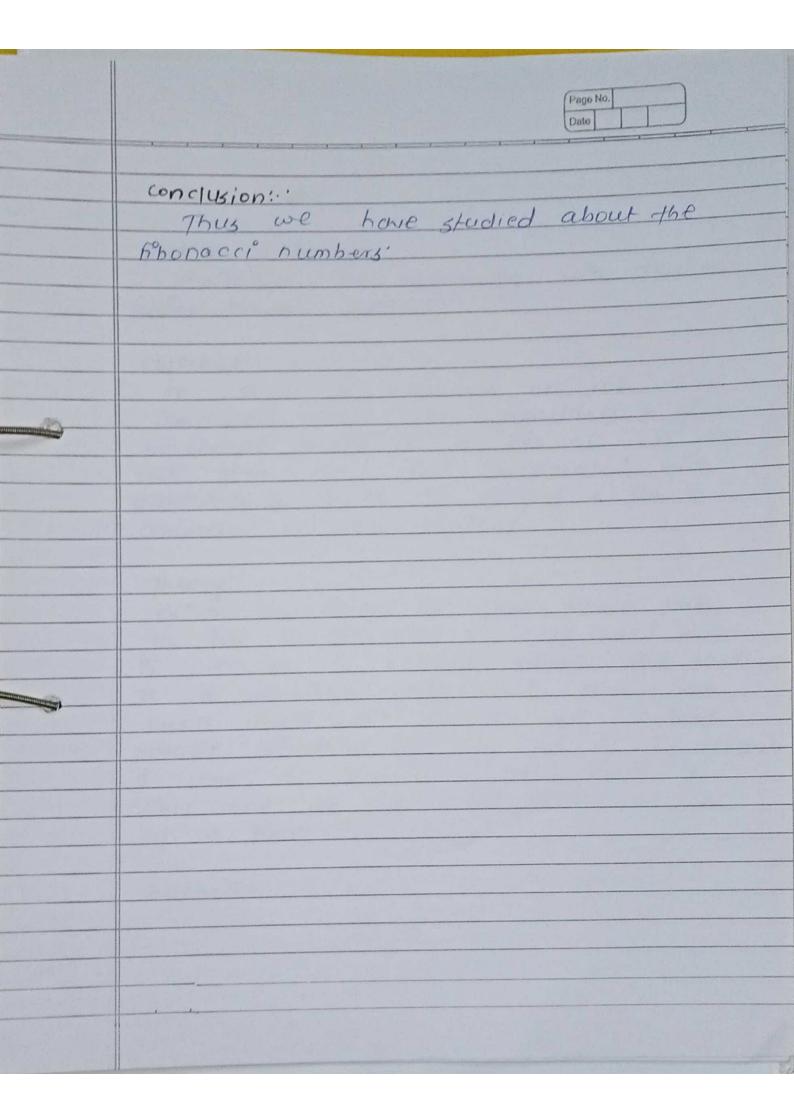
fi-1 (applies only to second integer)

- Fo- fo- 1+ fo-2 (applies to all other integs

Important motes on fibonacci Numbers:Here is a list of a few point should
be remembered while studying the fibonacci
numbers:

The concept of shonacci numbers is a only applicable to whole numbers is a decimal numbers from a financial expression.

The first fibonacci number is always a the second fibonacci number is always



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Practical No:

problem statement:

Implement job sequencing with decidine using greedy method.

Objective:

to find the requence of job, which is completed within their deadlines & given maximum profit. If a set of in jobs are given which are associated with deadlines & profit is ewned & job is completed by 8t's deadline.

Theory:

Given an array of jobs where every job hos a deadline & ossociated mofit. if the job is finished before the deadline It is agonthm given that every job takes single unit time, so the minimed possible deadline for any job is by default 1. How to marginize total motif if only one job can be ocheduled to

Example:

1	1
	1

Input: four jobs with following deadline

10b Id	peodlines	Law tit	
0	4	20	
Ь	1	10	
(	1	40	
0	1	30	

output Go.

Greedy approach for Job sequencing problem.

Greedy chose the jobs with maximum

profit First, by sorting the jobs in

fracteosing order of their profit would

help to maximize the total profit of

choosing the job with maximum profit

for every time slot will evenly maxi
mize the total profit-

Conclusion!

Thus, we implemented job sequencing with deadline using a greedy method which is completed within Their deadline of gives maximum profits.

practical No!

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problem strutement:

write a program to solve a fractional knapsack problem using a greedy method.

Objective:

A greedy method makes greedy choices. at each step to ensure that the objective-Function is ophmized.

TO FILL THE KNAPSACK OF SOME given valvae with different materials such that the value of selected items is maximized.

The greedy algorithm are simple & Straight forward. They are short sighted in their approach in the sense that they take decisions on the information at hand without worrying about the effect these decision may have in the future they are every to implement & most of the time quite efficient, many problems cannot algorithms are used to soive optimizerion problems

Greedy Approach 6-

Greedy algorithms work by making the decision that seems most promising at any moment. It never reconsidered this

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décision whatever situation may anise

Knapsack problems:

There are two version's of knapsack

I Fractional Enapsack problem:

ohich are used to solve the knapsack

The fractional knapsack problem, the stems are broken in order to maximize profit. The problem in which we break the stems is known as the fractional knapsack problem.

0-1 knapsack probleme-

The oil knapsack problem means the

the stems are either completely no stems

are having weight alog & respectively.

If we pick The 2kg stem then cannot

pick 1 kg stem from 2 kg stem we have

to pick the 2kg stem completely.

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	Conclusion:
	Thus we studied about the knapsack problem using a Greedy method.
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problem statement:

coefficient using synamic programming

objective!

The binomical coefficient is the binomical theorem which is an anithemetric exprets expression. It is denoted as (NIK) which is equal to NI(K) \* (N-K) where it denotes the functionial.

This follows a recursive relation using which we will calculate the N binomial coefficient in linear time o(NXK) using DP

Binomial theorem is also called of binomial expansion do linear the powers in algebraic equations. Binomial theorem helps us to find the expanded polynomial will always contain one more than power you are expanding

(3(-0)) - 5 (KU) & \* OU-K

where

5= known as segma natations' used

sum all the ferms in expansion from k-o

to k=n

n= positive integer powers of algebraic

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Equation.

(Kn) = read as in choose let

Binomial coefficient is calculate by computing according to the following equation.

(n, k) - n! (n-1c) 1 \* K!

Conclusion:
Thus, we have studied about generating bionomial coefficient using synamic magramming.