**AI**

Python has become one of the most popular programming languages and has a wide range of application in many fields such as AI, Web Development, App Development, Finance, Game Development, Scientific and Numeric computations, etc. Your next task is to learn the basics of the python programming language and complete the given set of questions using what you have learned. You can use the provided resources to learn the required concepts.

Q. Write a python program to make a 2-dimensional list that contains represents a table of records, for instance, student details like *Roll no, Student Name, Marks;* And complete the following 3 sub-tasks*.*

i) Add some records in the list and print the list in tabular form,

For e.g.

Roll No Name Marks

1 Abc 90

2 Def 95

3 Ghi 85

ii) From created list, extract and print second record/row that contains

For e.g.

2 Def 95.

iii) From created list, extract the *Student Name* column and print all the names (Use Slicing).

For e.g.

Abc Def Ghi

**General Programming**

Q. Write pseudo code/algorithm to find Determinant/Inverse of a 3x3 matrix.

Q. Write pseudo code/algorithm and flowchart for a program that outputs ‘True’ if given number is divisible by 3 and ‘False’ otherwise, without using the % operator explicitly (like N%3==0).

Division/Multiplication without using / or \* operator.

Simple Calculator

Fibonacci

Sorting(quick/merge/bucket)

1. **Fibonacci**

In mathematics, the Fibonacci numbers, commonly denoted *Fn*, form a [sequence](https://en.wikipedia.org/wiki/Integer_sequence), the Fibonacci sequence, in which each number is the sum of the two preceding ones. Starting from 0 and 1, the next few values in the sequence are:

**0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, ...**

Nth Fibonacci number is f(N)

i.e. f(0) = 0, f(1) = 1, f(2) = 1, f(3) = 2, f(4) = 3, f(5) = 5, and so on.

Write a program to find the Nth Fibonacci number.

**Input Format:**

First line contains number of test cases T (no. of input N’s)

Next T lines contains a number N.

**Output Format:**

Print f(N) for the input N of corresponding test case.

**Sample Input:**

3

7

0

10

**Sample Output:**

13

0

55

1. **Print Pascal’s Triangle.**

**1**

**1 1**

**1 2 1**

**1 3 3 1**