

1. Find nth fibonacci in log(n) time.

: <https://www.hackerearth.com/practice/algorithms/dynamic-programming/introduction-to-dynamic-programming-1/practice-problems/algorithm/angry-neighbours/>

<https://www.codechef.com/wiki/tutorial-dynamic-programming#>

2. For loops

```
#define F(i,a,b) for(int i = (int)(a); i <= (int)(b); i++)  
#define RF(i,a,b) for(int i = (int)(a); i >= (int)(b); i--)
```

3. Sieve

For Prime numbers

4. Difference Array

5. Find Inverse

<https://www.hackerrank.com/contests/aps-3rd-lab/challenges/priya-and-combinatorics/submissions/code/1315718867>

6. Matrix median

<https://www.geeksforgeeks.org/find-median-row-wise-sorted-matrix/>

7. Disjoint data structure

<https://www.hackerrank.com/contests/aps-lab-5-2/challenges/torque-and-development/submissions/code/1315954226>

8. Diameter of Tree

<https://www.geeksforgeeks.org/diameter-of-a-binary-tree-in-on-a-new-method/>

9. Segment Tree

<https://www.hackerrank.com/contests/aps-labs-9/challenges/minimum-marks-in-class/submissions/code/1316996329>

//Notes

1. % has higher priority than +. So do use long long when mod is asked to avoid any confusion.

DoubtsS

Std algo

<https://www.geeksforgeeks.org/find-median-row-wise-sorted-matrix/>

LAB 4

Short cut to traverse 8 neighbor coordinates <https://www.hackerrank.com/contests/pg1-aps-lab6/challenges/tayal-and-connected-matrix/submissions/code/1316224336>

<https://www.hackerrank.com/contests/aps-labs-7/challenges/finding-the-unknown/problem>