PandemicGraph

locked

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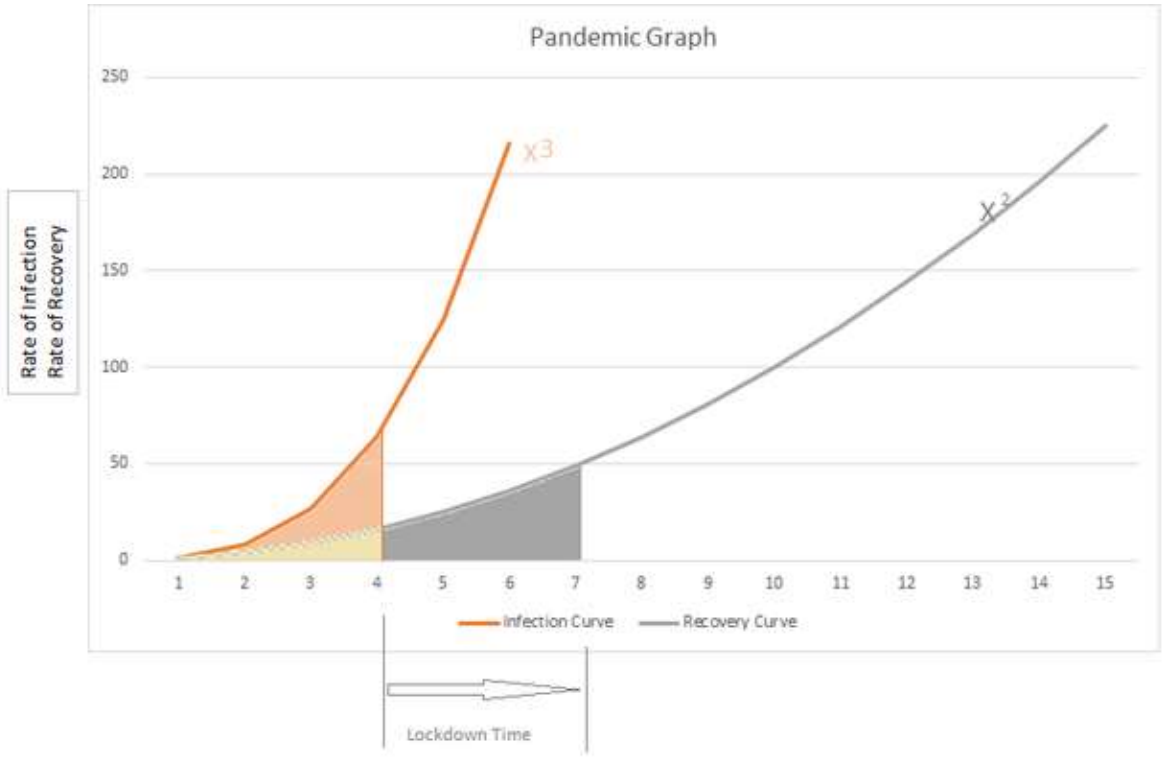
COVID-19 pandemic is impacting rapidly because it infects exponentially. At some stage we see the numbers as a simple, but it in couple of weeks, everything become out of control.

Assume Covid-19 is spreading X to the power 3 [X^3)]. It also depends on certain other factors like virus's reproduction number, mobility of the society. The recovering is only [X^2] rate.



Assumptions: No spreading once lockdown applied Recovering starts as infection occurs [both curves start at same point]

Input Format

```
n - number of entries
i - Incomming rate

Ex:
n
i1
i2
```

Constraints

```
Incomming rate: Positive Integer [input]  < 1000000000
Lockdown Days Positive Integer [output]
```

Output Format

```
0 -days till from lockdown to raising restrictions.

ex:
o1
o2
```

Sample Input 0

```
1
100
```

Sample Output 0

```
4
```

Explanation 0

100 incomming will be reached on 5th day of the pandamic. because

$$\sqrt[3]{100} = 4.65 <= 5$$

at the end of 5th day there will be 225 patients. 1*1*1 + 2*2*2 + 3*3*3 + 4*4*4 + 5*5*5 -> 1+8+27+64+125 > 225

In the rate of x^2, it need 9 days to recover 225 patients 1*1 + 2*2 + 3*3 + 4*4 + 5*5 + 6*6 + 7*7 + 8*8 + 9*9 -> 1+4+9+16+25+36+49+64+81 >=285

100 incomming received on today [which means on 5th day] and we need another 4 days [9-5] to recover all existing patients.

Submissions: 37
Max Score: 100
Difficulty: Hard

Rate This Challenge:

More

C++

```cpp
#include <cmath>
#include <cstdio>
#include <vector>
#include <iostream>
#include <algorithm>
using namespace std;


int main() {
    /* Enter your code here. Read input from STDIN. Print output to STDOUT */
    return 0;
}

```

Line: 1 Col: 1

Upload Code as File Test against custom input Run Code Submit Code