

Daffodil International University
Department of Computer Science and Engineering
Semester Final Exam, Summer 2021
Course: Operating System Lab, Course No: CSE324, Section- PC-A+PC-B
Full Marks: 40

All problems should be solved using Linux shell Scripts and Linux Commands

1. Consider the following Algorithm:
 - (i) input n
 - (ii) print n
 - (ii) if $n=1$ then stop.
 - (iii) else
 - (iv) if n is odd then $n \leftarrow 3n+1$
 - (v) else $n \leftarrow n/2$
 - (vi) Go To (ii)

Write a Shell program for constructing the above algorithm.

Sample Input:

22

Sample Output:

22 11 34 17 52 26 13 40 20 10 5 16 8 4 2 1

2. After a very good history class - succeeding a very poor math class - some students from a specific school are in doubt on a simple problem. The teacher asked them about the numeric value of the century of a given year but, as only few students got it, she decided to ask you to help creating a program that does exactly this for educational purposes. For those who not remember this history class, the century 1, for example, means the years among 1 and 100, the century 2 the years among 101 and 200, the century 3 the years among 201 and 300 and so on.

Input

Each input contains a single integer N ($1 \leq N \leq 109$), that means the value of some year that should be processed.

Output

For each input, output will be the line with the value of the century of the corresponding year.

Input Sample	Output Sample
1	1
999	10
2000	20
2001	21

3. You're moving several boxes via a tunnel, each of which is a parallelepiped with length, width, and height defined. The tunnel's height is 41 feet, and its width is supposed to be limitless. Only a box with a height that is strictly smaller than the tunnel's height can be carried through the tunnel. Determine the volume of each box that can be moved successfully from one location to another.

Input Format:

Input the length (l), width (w) and height (h) of each box.

Output Format:

If you can carry the box through the tunnel, then print the volume of the box, otherwise print "Can't be transported".

Construct a function naming **Volume()** that will print the volume of the transported box.

Sample Input	Sample Output
5 5 5	125
1 2 40	80
6 5 43	Can't be transported

4. Suppose you want to install a game name "pacsol"- in your Ubuntu. So you have installed the app. Afterwards, you have opened the app through the terminal (For opening the app you have to run the process named "pacsol"). After playing sometimes you want to kill the process. So write down the sequence of shell commands to perform this operations.