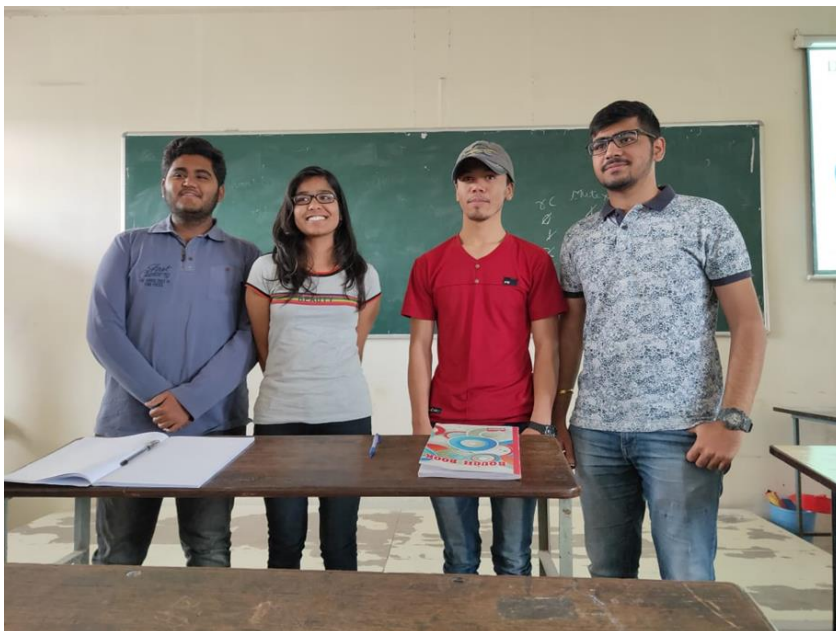# Department of Information Technology

Innovations in Teaching Learning

1)Name of the Course:Operating System

2)Name of the Faculty:Mrs.A.R.Sawant

3)Innovative method practised:Role play to explain Reader writer problem

1) Name of the Course: Object Oriented Programming

2) Name of the Faculty: Dr. P. A. Bailke

3) Innovative method practiced: Solved programming challenges on platforms like Hacker Rank

Such exercise has improved analytical as well as coding skills of students.

Example problem: [URL: https://www.hackerrank.com/challenges/java-string-compare/problem?isFullScreen=true]

We define the following terms:

Lexicographical Order, also known as alphabetic or dictionary order, orders characters as follows:

For example, ball < cat, dog < dorm, Happy < happy, Zoo < ball.

A substring of a string is a contiguous block of characters in the string. For example, the substrings of abc are a, b, c, ab, bc, and abc.

Given a string, , and an integer, , complete the function so that it finds the lexicographically smallest and largest substrings of length .

Function Description

Complete the getSmallestAndLargest function in the editor below.

getSmallestAndLargest has the following parameters:

string s: a string

int k: the length of the substrings to find

Returns

string: the string ' + "\n" + ' where and are the two substrings

Input Format

The first line contains a string denoting .

The second line contains an integer denoting .

Constraints consists of English alphabetic letters only (i.e., [a-zA-Z]).

Sample Input

welcometojava

3

Sample Output

ava

wel

Explanation

String has the following lexicographically-ordered substrings of length :

We then return the first (lexicographically smallest) substring and the last (lexicographically largest) substring as two newline-separated values (i.e., ava\nwel).

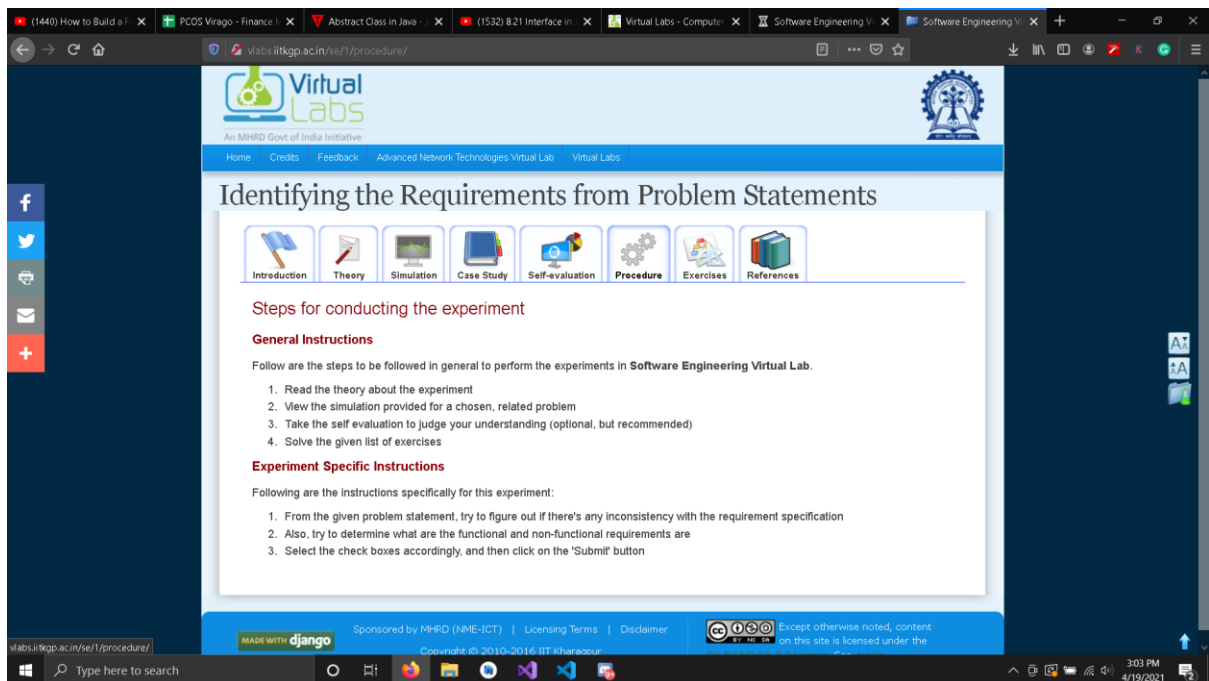The stub code in the editor then prints ava as our first line of output and wel as our second line of output.

1)Name of the Course:Software Design Methodology

2)Name of the Faculty:Mrs.D.J.Joshi

3)Innovative method practised:Use of virtual lab for completing UML assignments.

Screenshot/evidence:

1)Name of the Course:Web technology and Cloud Computing

2)Name of the Faculty:Mrs.A.R.Sawant

3)Innovative method practised:kKAHOOT quiz
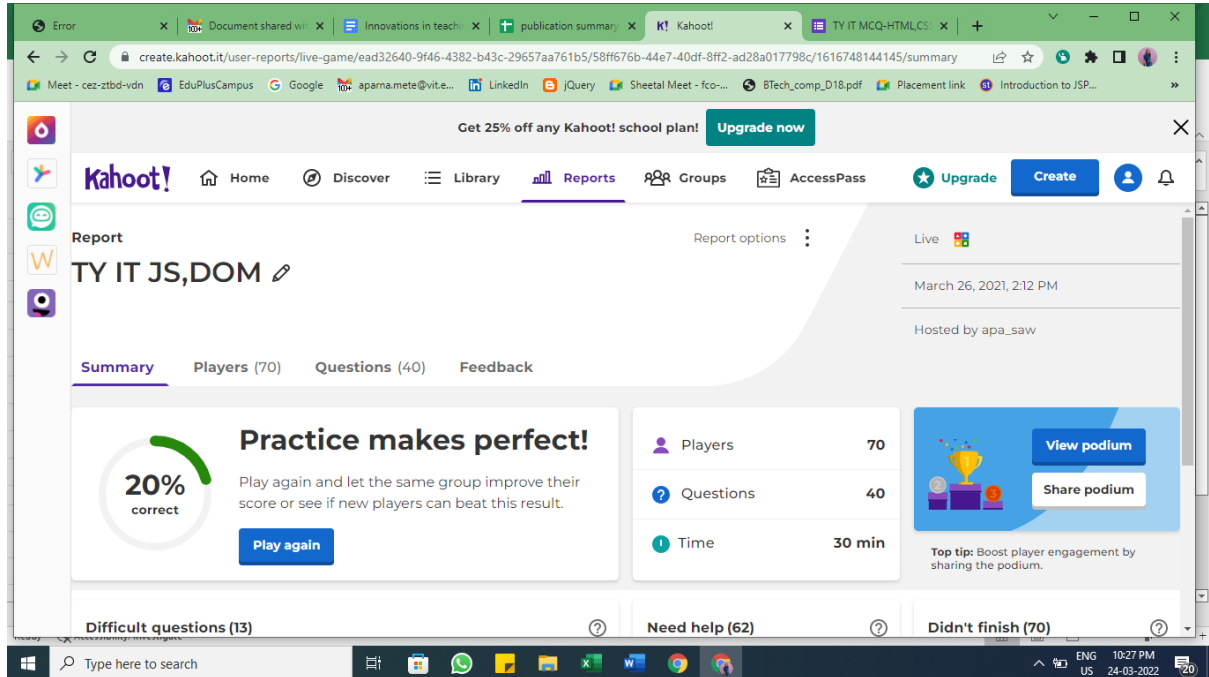
1)Name of the Course: Internet of Things

2)Name of the Faculty: Mrs Deepali R Deshpande

3)Innovative method practised: To get more knowledge and explore the the concepts of IOT the guest session was conducted by an expert external faculty Prof. Dr. P N Mahalle. Also focussed on how IOT definitions are getting updated and requirements are creating big challenges in IOT.

1)Name of the Course: Internet of Things

2)Name of the Faculty: Mrs Deepali R Deshpande

3)Innovative method practised: For motivating students , a group of students from the same class had presented on the concepts on the role of cloud computing in IOT to the entire class.
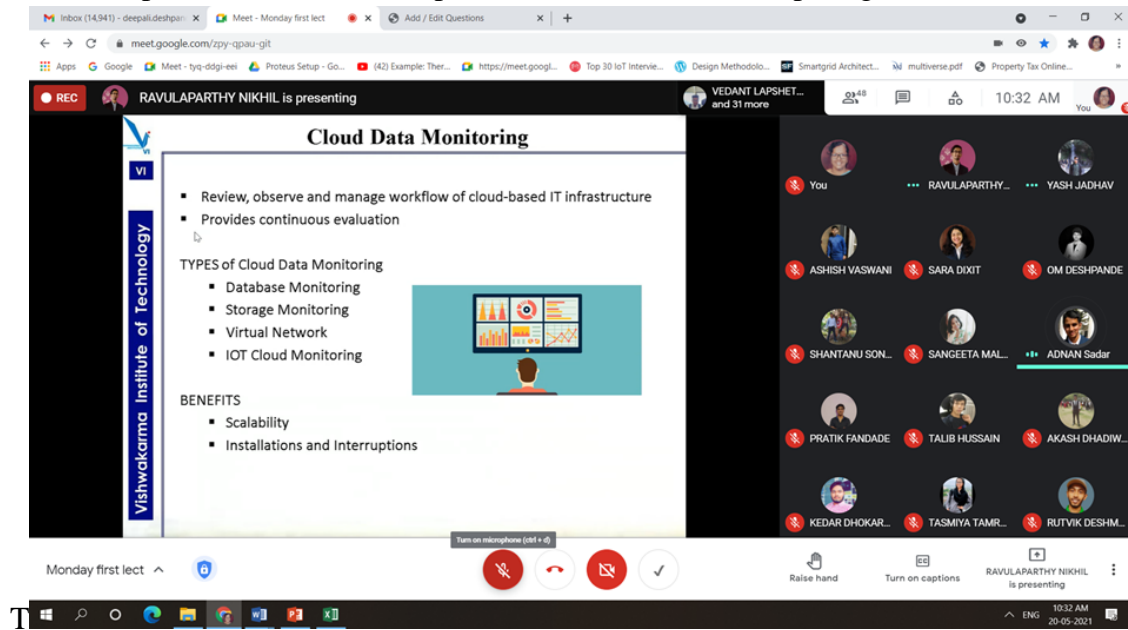
1)Name of the Course: Artificial Intelligence

2)Name of the Faculty: Dr. Priyadarshan Dhabe

3)Innovative method practised: Trace of algorithms A* and AO*

1)Name of the Course: CN [IT2008]: Computer Networks

2)Name of the Faculty:Ranjana S. Jadhav

3)Innovative method practised: Problem Solving,Case Study

Case Study

A Case Study In Secure File Transfer: Implementing Secure FTP with SSL In Healthcare Organization

BIJAWE SANKET SANJAY, DIVSEHAJ SINGH ANAND,

LATKAR MEHUL SHAILESH,

PAWAR BHARGAV

SANDEEP,

(Vishwakarma Institute of Technology, Pune)

Abstract-- Secure electronic file transfer are done between organizations has become essential for business transactions and communication. Healthcare organizatio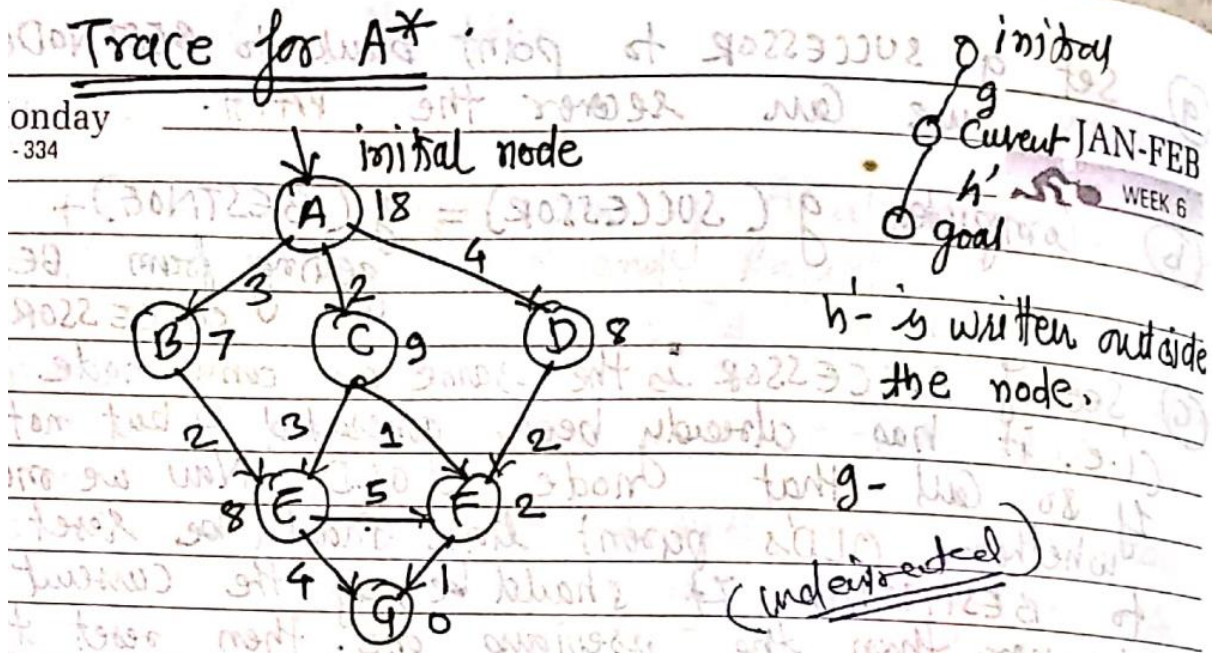ns are no exception to this requirement. The ability to leverage the Internet to share protected health information also known as PHI or other sensitive information between health care organizations are going on increasing. From individual file encryption and VPN's (Virtual Private Networks), to a complete EDI (Electronic Data Interchange) system, a plethora of methods and applications exist for securing the transfer of files and data over the Internet.

Keywords—File Transfer Protocol (FTP), Secure Sockets layer (SSL), Virtual Private Network (VPN), Electronic data interchange (EDI).

functioned as a transparent gateway for data interchange between core back-end systems and provided limited access from the Internet from health care organization partners. The FTP server was a member server in a mixed Novell Netware/NT Domain environment where the NT Domain was interconnected to Novell Netware via a special redirector installed on the NT domain controllers.

B. Before-Methods Of Access

Access to the FTP server was permitted not only via standard FTP from internal trusted systems, but also via network shares configured on the FTP server itself. Limited FTP access from the Internet was also devised. FTP access was permitted by any standard FTP client application on the trusted LAN with a valid FTP user name and password.

Problem Solving:

Ex 7

- A point-to-point satellite transmission line connecting two computers uses a stop and wait protocol and has the following properties
- Data Transmission Rate (DTR) = 64 kbps
- Frame Size = 2048 bytes
- One Way Propagation Delay = 180 ms
  Acknowledgement Size = 10 bytes
- Processing Delay of one computer = 25 ms
- Determine the throughput and Utilization.

Sol 7

- Solution:
- Frame Transmission Time = (2048x8)/64000 =0.256s = 256ms
- Ack Transmission Time = (10x8)/64000 = 1.25 ms
- Total time to transmit frame and receive ack is
  = Frame Trans Time + Ack Trans Time + Proc Delay + 2xProp Delay
  = 256 ms + 1.25 ms + 2x25 ms + 2x180 ms
  =256 ms + 1.25 ms + 50 ms + 360 ms
  = 667.25 ms
  =0.667s

Continued...

- Throughput = (2048 x 8) / 0.667 = 24.563 kbps
  a = Prop Time / Transfer Time =180 ms / 256 ms = 0.7
  Utilization=u= = $1/(1+2a)$ = $1/(1+1.4)$ = 41.67%

1)Name of the Course: Image Processing and Computer Vision

2)Name of the Faculty: Dr. Premanand Ghadekar

3)Innovative method practised: Learning through Videos and Animation

Interactive Games: Kinect

- Object Recognition:
  http://www.youtube.com/watch?feature=iv&v=fQ59dXOo63o
- Mario: http://www.youtube.com/watch?v=8CTJL5lUjHg
- 3D: http://www.youtube.com/watch?v=7QrnwoO1-8A
- Robot: http://www.youtube.com/watch?v=w8BmgtMKFbY

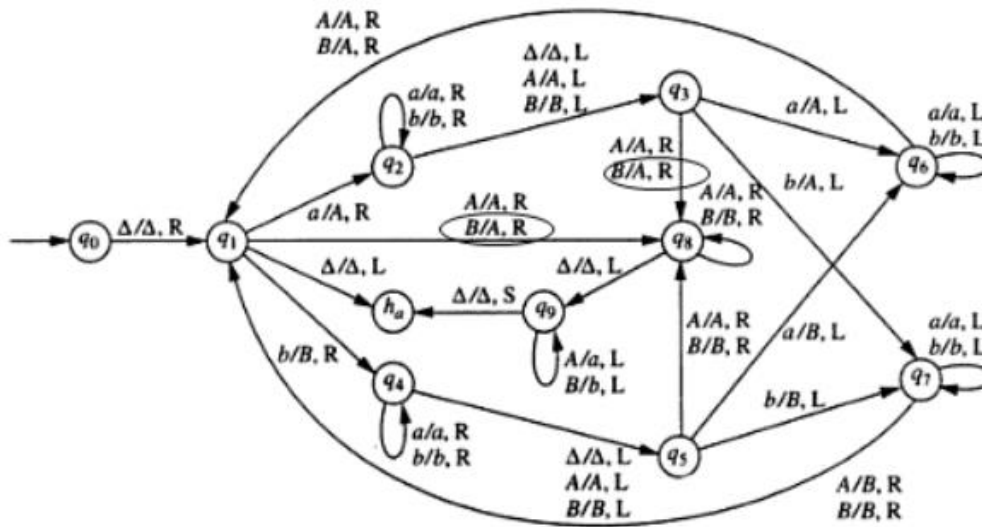Prof P P Ghadekar, VIT Pune

Smart Cars

- Mobileye
  – Bought by Intel for 15 Billion dollars

Prof P P Ghadekar, VIT Pune

1)Name of the Course:Automata Theory

2)Name of the Faculty: Dr. K.B. Vayadande

3)Innovative method practised: Reversing String in TM

Turing Machine to reverse string