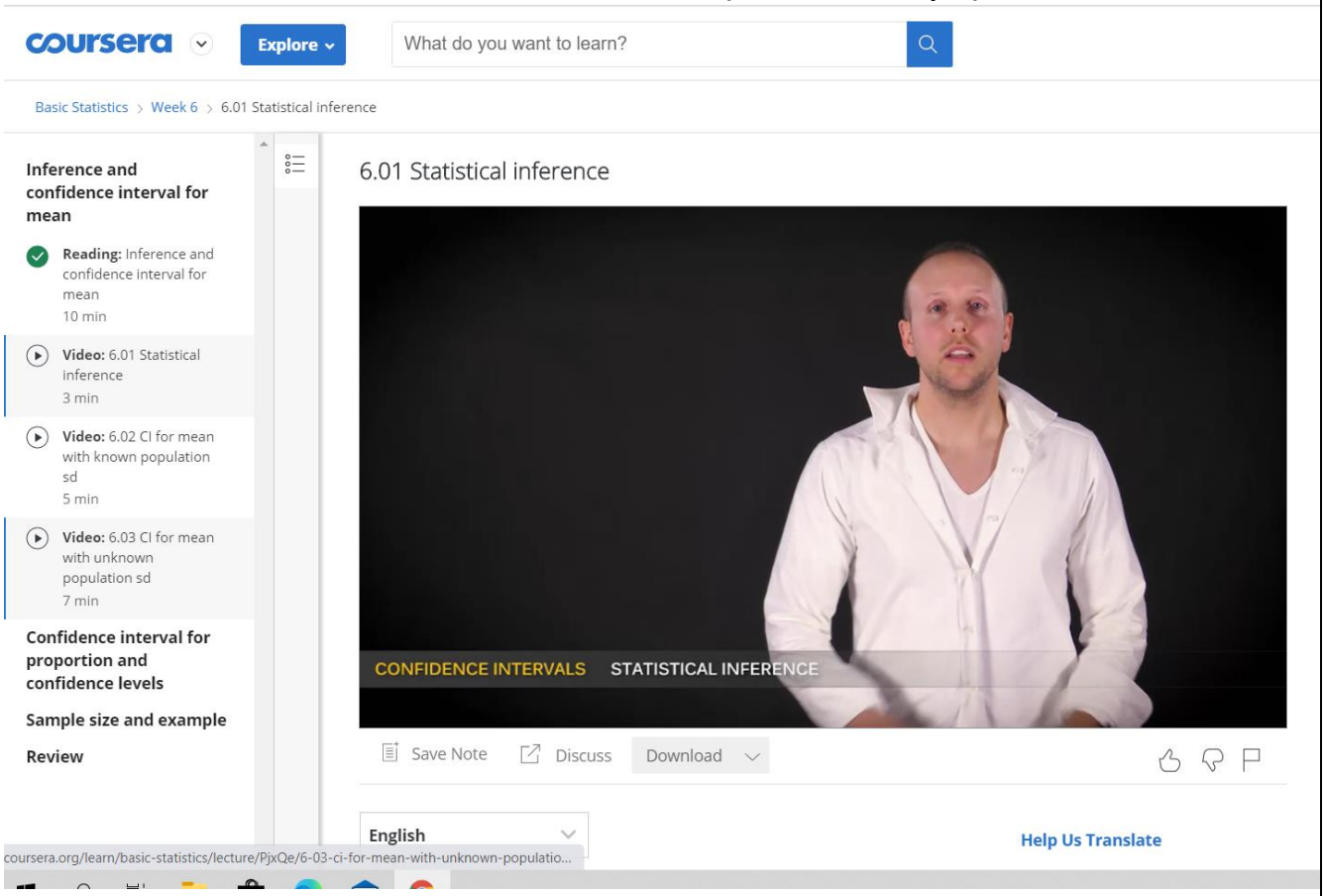
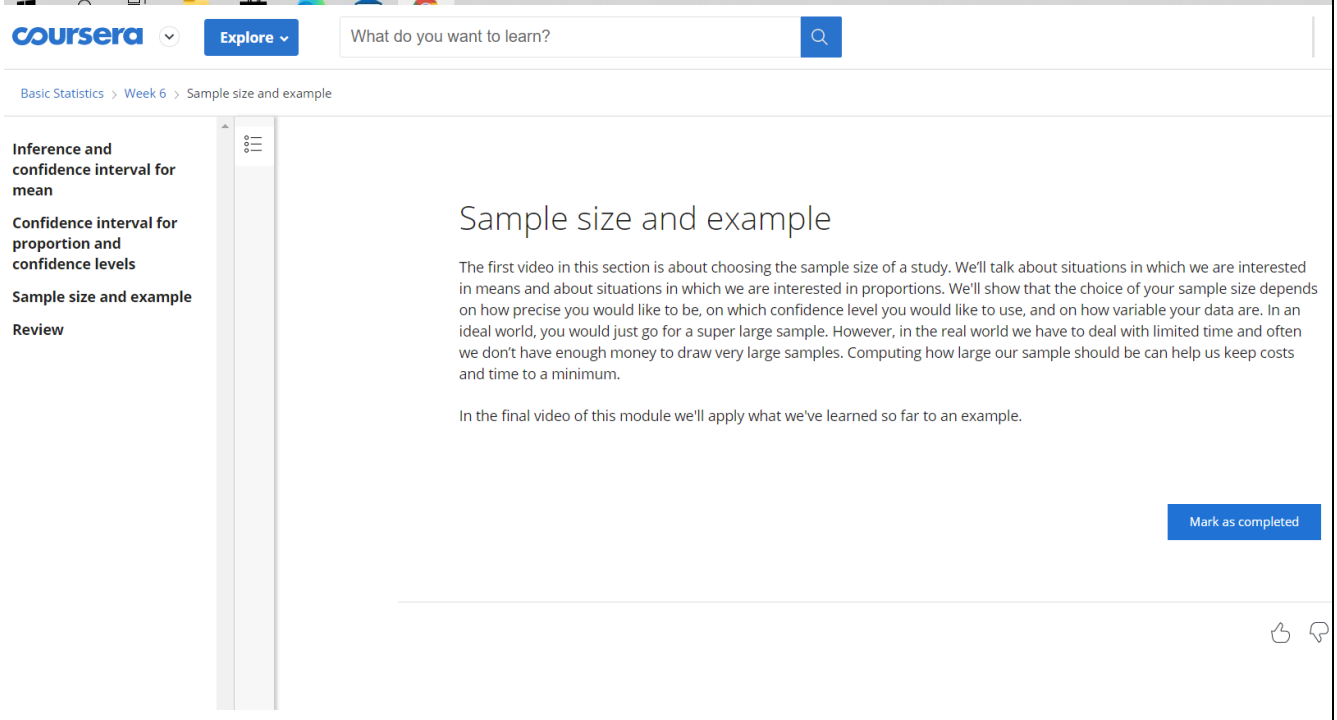
DAILY ASSESSMENT FORMAT

Date:	**24-07-2020**	**Name:**	**BINDUSHRI**
Course:	**Basics statistics**	**USN:**	**4AL17EC011**
Topic:	**Week-6**	**Semester & Section:**	**6th sem&Asec**
Github repository	**Bindushri**		

FORENOON SESSION DETAILS (9.00am to 1.00pm)





Basic Statistics

All parents in Amsterdam

↓ simple random sample

Go now parents

↓

How many hrs per night do your sleep [illegible].

Statistical Inference.

↓ ↓

Estimation Hypothesis testing.

Go now parents.

Choose many hrs per night does one sleep [illegible].

↓

$\bar{x} = 2.6$

↓

Interval Estimate.

$\mu = 2.3 - 2.9$

Probability that interval contains population value.

↓

confidence level.

↓

most cases 0.95

↓

95% confidence level.

DAILY ASSESSMENT FORMAT

Date:	**24-07-2020**	**Name:**	**BINDUSHRI**
Course:	**IOT using GOOGLE CLOUD**	**USN:**	**4AL17EC011**
Topic:	**Week-1**	**Semester & Section:**	**6th Asec**

AFTERNOON SESSION DETAILS(2.00pm to 5.00pm)

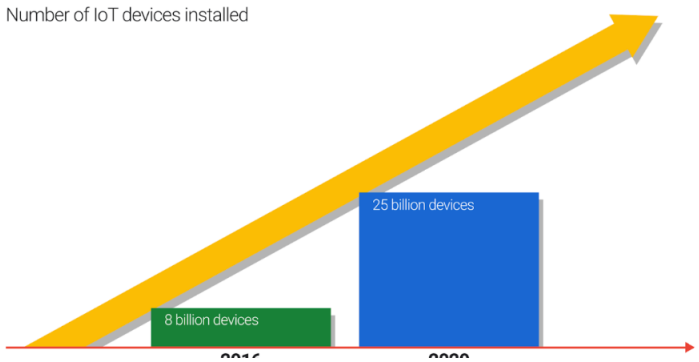
rg/learn/iiot-google-cloud-platform/supplement/UxqHX/lesson-introduction

Explore | What do you want to learn? | Bindushri

Platform > Week 1 > Lesson Introduction | Prev | Next

Lesson Introduction

In 2016 there were approximately 8 billion IoT devices connected to the cloud. Gartner research estimates by 2020 there will be approximately 25 billion.



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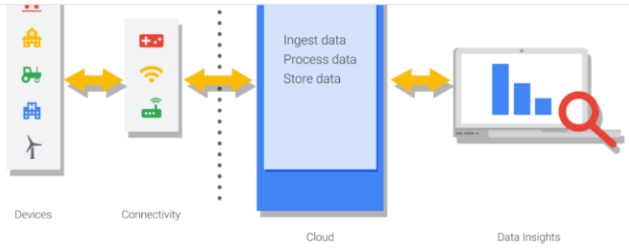
Industrial IoT on Google Cloud Platform > Week 1 > IoT Architecture | Prev | Next

- Welcome to the course
- How to use Qwiklabs
- Course Feedback
- What is IoT?
- Cloud IoT Platform
- **Reading:** Lesson Introduction, 3 min
- **Discussion Prompt:** Industry Transformations, 5 min
- **Reading:** IoT Architecture, 3 min
- **Reading:** Google Cloud IoT Architecture, 6 min
- **Reading:** Cloud IoT Platform Stages, 2 min
- **Reading:** Ingest Data, 2 min
- **Reading:** Process Data, 2 min



IoT architectures must be capable of scaling connectivity of devices, data ingestion, data processing, and data storage. They must be able to do this quickly while still producing real-time data insights. Sending ever-increasing amounts of data to the cloud slows processor times and requires more bandwidth to transfer and store data.

To mitigate this demand, distributed computing known as fog or edge computing is gaining popularity. The edge refers to the geographic distribution of computing nodes in the network as Internet of Things devices, which are at the "edge" of a network. This in turn increases the demand for devices that are capable of cleaning, processing, and analyzing data locally. The result is that only cleaned metadata is sent to the cloud.

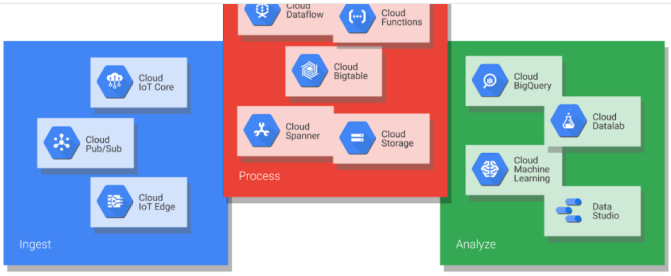
Scaling also means that the ability to easily monitor and maintain thousands of devices must also scale. An asynchronous, scalable communication stack is crucial in bidirectional communication with devices. For example, what happens when thousands of devices must be updated or if they transmit data at the same time? A system that allows for asynchronous communication would be less brittle. A communication protocol that separates sending and receiving, such as MQTT, is a necessity in IoT architecture. At the same time, there are cases when commands sent to a device must be accomplished immediately, resulting in a need for synchronous (or near synchronous) behavior.

coursera.org/learn/iiot-google-cloud-platform/supplement/ChpFJ/google-cloud-iot-architec...

The first stage, data gathering, occurs at the sensors and devices . Sensors gather data from the environment and send it to the cloud, either directly or through an intermediary device.

A device will prepare the data for transmission to the cloud. Depending on the network, preparation can include cleaning, preprocessing, analysis, and even machine learning inference.

Cloud IoT Edge



Google Cloud IoT platform includes the three stages necessary for an IoT pipeline: data ingestion, data processing, and data analysis. For each of the three stages in the pipeline, several smaller tasks need to be completed. Google Cloud IoT platform has created a fully integrated tool set for each stage.

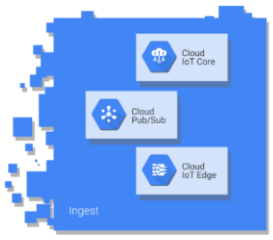
Ingesting includes managing and optimizing IoT device data through secure device connections. Real-time data is collected with sensors. Devices are authorized through Cloud IoT Core. Then the data is uploaded to the cloud through Cloud Pub/Sub.

Processing includes cleaning and storing the data with on-demand solutions that scale. You use a Cloud Dataflow pipeline to direct data to Cloud Storage or BigQuery.

Analysis includes visualizing and predicting outcomes to generate actionable outcomes. You use BigQuery, Cloud Dataprep, and Cloud Machine Learning Engine to analyze data and gain valuable insights.

Ingest Data

Ingest, manage and optimize your IoT device data securely



Cloud IoT Core is a fully managed service designed to:

- Help connect, manage, and ingest data from globally dispersed devices.
- Easily and securely ingest event streams from anywhere, at any scale, for simple, reliable, real-time stream analytics.
- Seamlessly move IoT data across Google Cloud services.
- Ingest data with Cloud IoT Core and distribute data with Cloud Pub/Sub.

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Industrial IoT on Google Cloud Platform › Week 1 › Process Data Prev | Next

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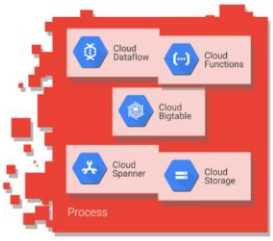
- Reading: Process Data 2 min

Process Data

Process, clean and store data on-demand solutions that scale



You apply data transformations with Cloud Dataflow. This is simplified stream or batch data processing with equal reliability and expressiveness.

Cloud Functions is a lightweight compute solution for developers to create single-purpose, standalone functions that respond to Cloud events without the need for you to manage a server or runtime environment.

coursera.org/learn/iiot-google-cloud-platform/supplement/CbqFJ/google-cloud-iot-architec...

Ingest, Process, Analyze
Graded Quiz • 8 min

Due Jul 20, 9:59 AM EAT

✓ **Congratulations! You passed!**
TO PASS 75% or higher

Keep Learning
Retake the assignment in **7h 58m**

GRADE
77.77%

Ingest, Process, Analyze

LATEST SUBMISSION GRADE
77.77%

1. You are designing an IoT network to monitor hallway activity at the local college. Whenever there is movement in the hallway, you will want to track it to determine lighting, temperature, and classroom use. **1 / 1 point**

   What assumption can you make while developing your network?

   - [x] Data will arrive in bursts with periods of low or no activity as well as periods of high activity.

     ✓ **Correct**
     Yes, there will periods of high activity - when classes are changing will be a high activity period, during class hours will be a low activity period, and late nights will be most likely a very low to no activity time.

   - [ ] Data will arrive at regular intervals with predictable periods
   - [ ] It will be easy to track individual student movement.

Google Cloud IoT is a Complete Solution

Google Cloud IoT is able to offer a complete IoT solution because:

It is serverless by design - the cloud acts as the server. This means the network can be dynamically allocated to satisfy demand. You don't own the hardware which means: you pay for only those resources that you use, you don't have to manage infrastructure (just your sensors and devices), and scaling to suit your needs is fast and easy.

Has intelligence built-in with ML and AI capabilities - Google Cloud IoT includes all the ML models and AI capacity available with Google Cloud ML Engine. So you can train your machine learning models at scale, host them in the cloud, and deploy them to make inferences about new data.

You can also use an Edge TPU board and perform machine learning at the device. Edge TPUs are designed to complement Google's Cloud TPU offering, so you can accelerate ML training in the cloud, then have lightning-fast ML inference at the edge. Your sensors become more than data collectors—they make local, real-time, intelligent decisions. This means data processing and inference is done on the board. Performing ML on the edge means increased privacy, and reduced latency

Is secure with hardware-root-of-trust - Google Cloud IoT Core enables secure authentication with IoT devices. The identity is unique, verifiable, trustable, and be able to validate device firmware.

Google Cloud IoT Characteristics
Graded Quiz • 10 min

Due Jul 20

Congratulations! You passed!
TO PASS 80% or higher

Keep Learning

GRADE
80%

Google Cloud IoT Characteristics

LATEST SUBMISSION GRADE
80%

1. Why is being serverless an important characteristic of Cloud IoT? **1 / 1 point**

- [x] Being serverless means the cloud network can expand and contract to meet the variable needs of IoT.

Correct
Yes, this is a very important benefit of serverless architectures. The networks expand and contract, meaning you only pay for what you use.

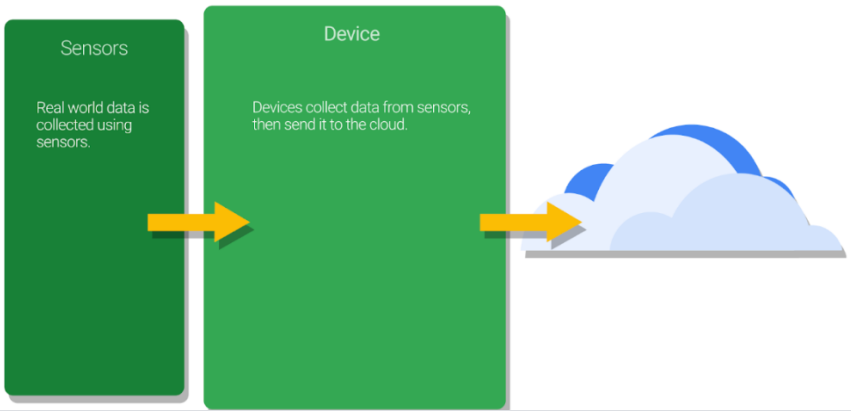
- [ ] Being serverless means devices send all data to the cloud for processing and analysis.
- [ ] Being serverless means the same sensors and devices must be used throughout the IoT network.

2. You are designing an IoT network of 1000 devices. It is critical to know when a device is off line. You want to **0 / 1 point**

Sensors and Devices Introduction

In this lesson you learn about sensors and devices. Often, sensors and devices are referred to as simply 'devices,' with the presence of sensors implied. The two will be discussed separately in this module, but throughout the rest of the course, 'devices' may refer to both the sensor and device combined.

A sensor is a module that observes changes in its environment and sends information about these changes to a device.



What do you want to learn?
Bindushri

Types of Sensors

There are many sensors available for IoT and a number of ways of categorizing them. The categories discussed below are just a small sample of the ways sensors can be grouped.

Sensors can be divided by their external power requirements:

Type	Definition	Example
passive	Does not require external power to operate. They respond to input from their environment.	A temperature sensor that changes resistance in response to temperature changes
active	Requires external power to operate.	A camera

Type of signal the sensor produces:

Type	Definition	Example
analog	Outputs an analog continuous signal	Accelerometers, temperature sensors
digital	The output is converted to discrete values (digital 1s and 0s) before transmitting to a device	Digital pressure sensor, digital temperature sensor

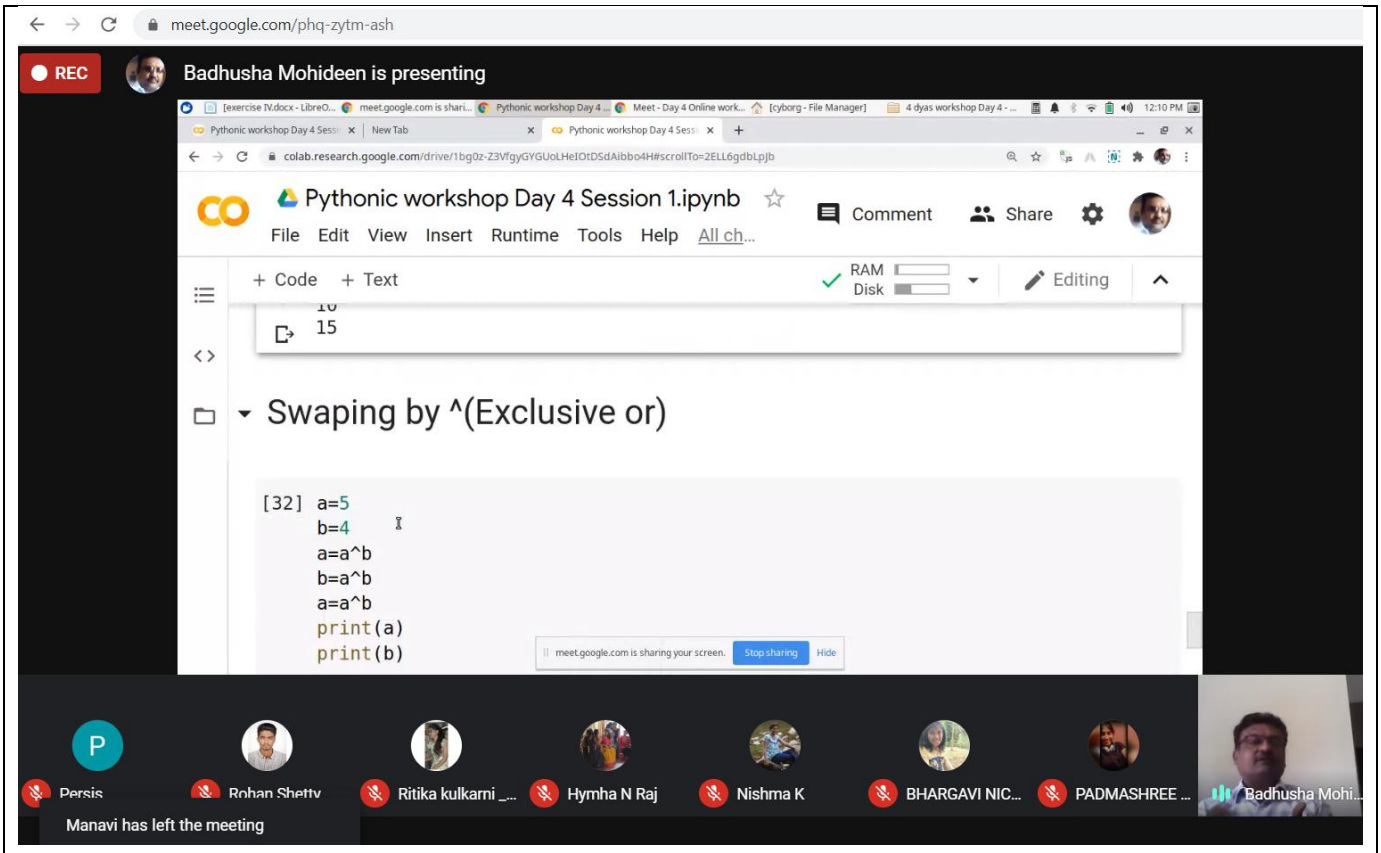
Type of measuring device:

Type	Definition	Example
chemical	Responds to chemical changes in its environment	Gas sensor
mechanical	Responds to physical changes in its environment	Microswitch

DAILY ASSESSMENT FORMAT

Date:	**24-07-2020**	**Name:**	**BINDUSHRI**
Course:	**Python workshop**	**USN:**	**4AL17EC011**
Topic:	**Day4**	**Semester & Section:**	**6th Asec**

AFTERNOON SESSION DETAILS(2.00pm to 5.00pm)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Pythonic workshop Day 4 Session 1.ipynb
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print(b)
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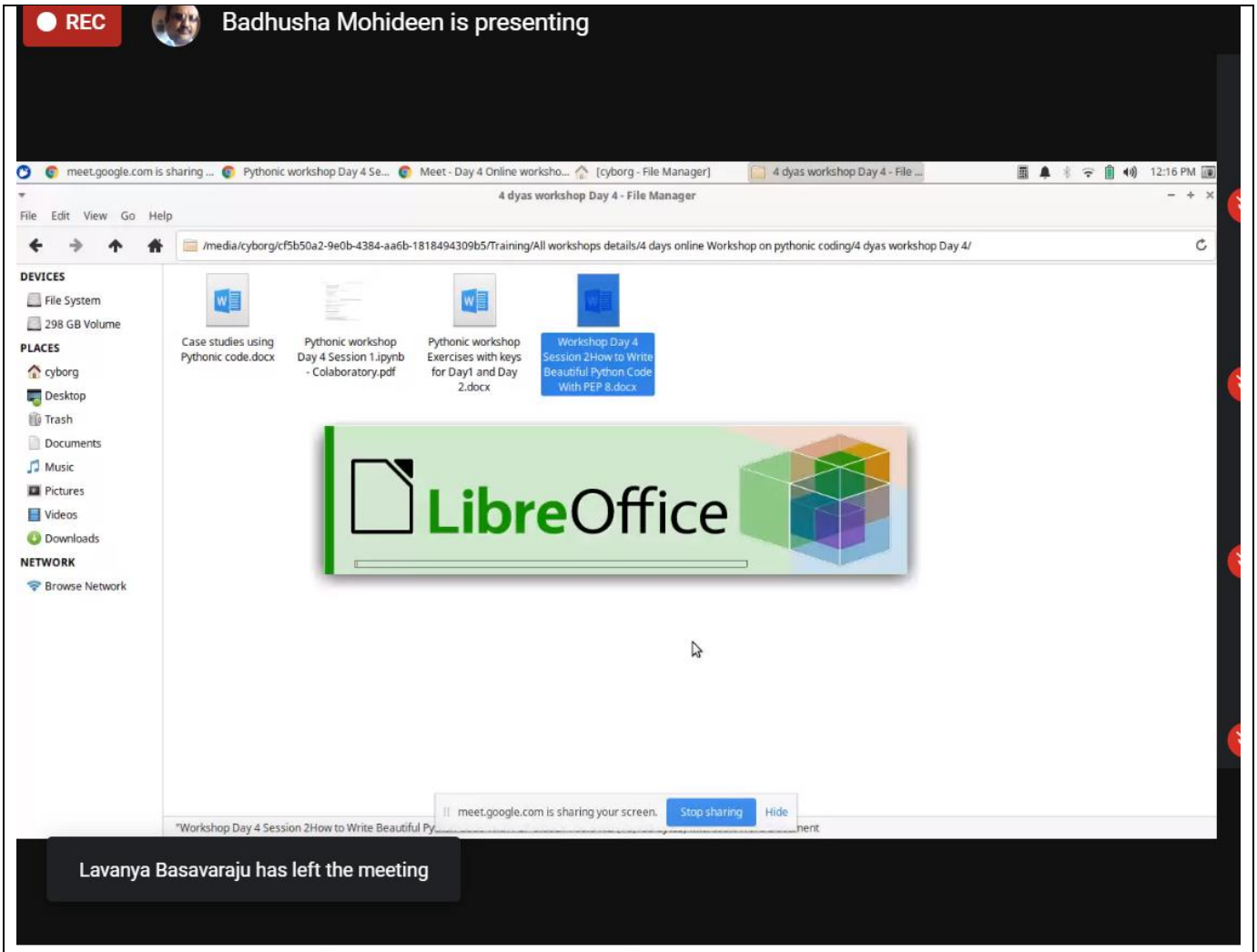
Ritika kulkarni _...
Hymha N Raj
Nishma K
BHARGAVI NIC...
PADMASHREE ...
Badhusha Mohi...
Manavi has left the meeting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DEVICES
File System
298 GB Volume
PLACES
cyborg
Desktop
Trash
Documents
Music
Pictures
Videos
Downloads
NETWORK
Browse Network
Case studies using Pythonic code.docx
Pythonic workshop Day 4 Session 1.ipynb - Colaboratory.pdf
Pythonic workshop Exercises with keys for Day1 and Day 2.docx
Workshop Day 4 Session 2How to Write Beautiful Python Code With PEP 8.docx
LibreOffice
meet.google.com is sharing your screen.
Stop sharing
Hide
Lavanya Basavaraju has left the meeting

Python.

```
result_list = ['True', 'False', 'File not found']
result_string = ''
for result in result_list:
    result_string += result
result_string
```

```
def change(string):
    return string[-1] + string[1:-1] + string[0]
string = input("enter string:")
print("modified string:", change(string))
print('original string:', string)
```

Enter String : vinay
Modified string : yinav
original string: vinay.

```
def remove(string, n):
    first = string[:n]
    last = string[n+1:]
    return first + last
string = input("enter the string:")
n = int(input("Enter the index the character name
```

would the pertools.accumulate()
result = pertools.accumulate(CFG, operat
add)