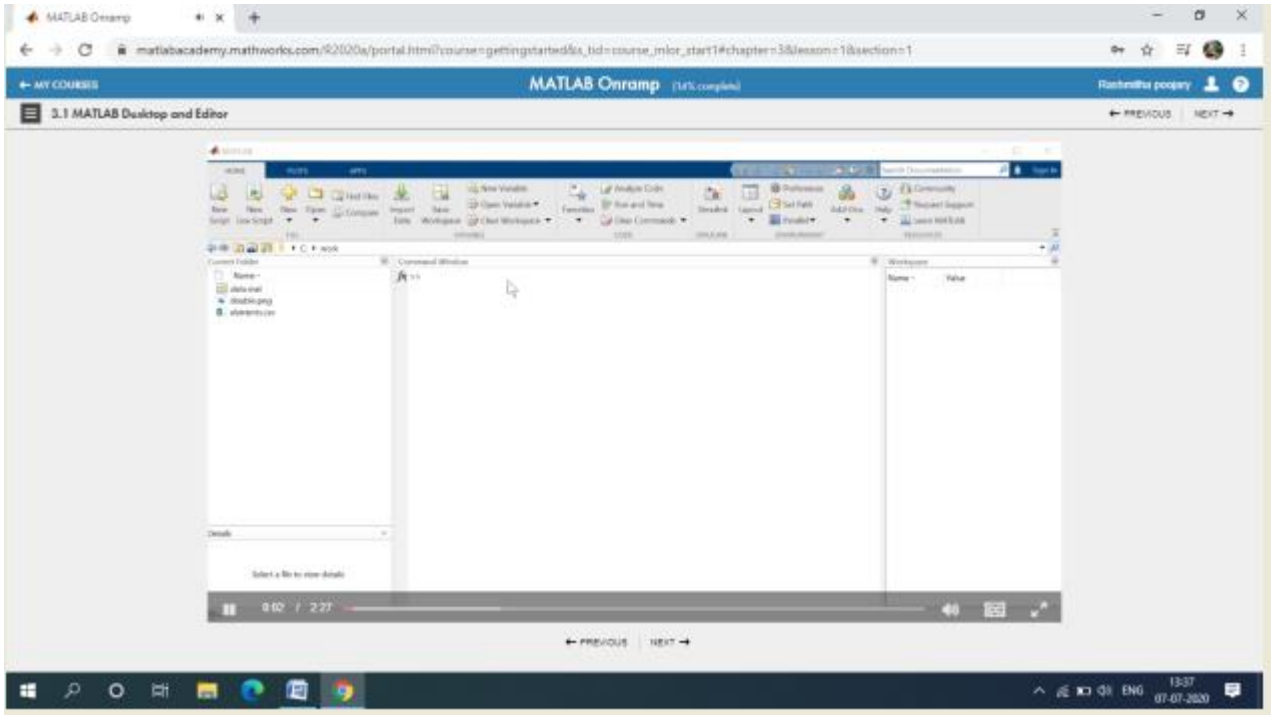
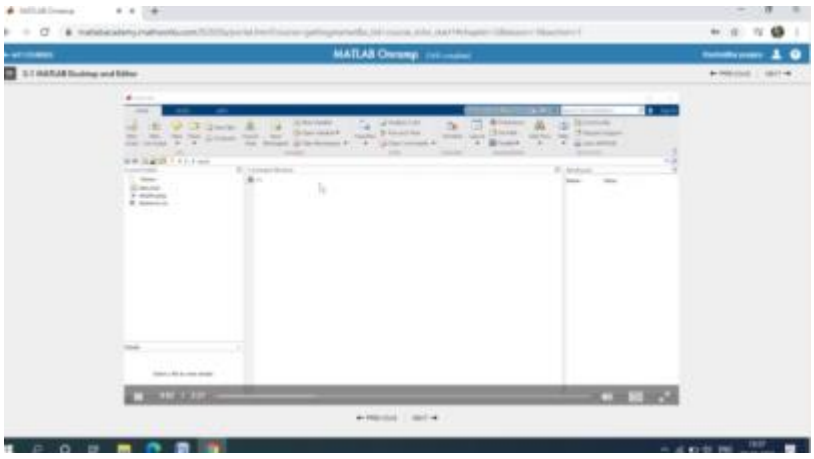
DAILY ASSESSMENT FORMAT

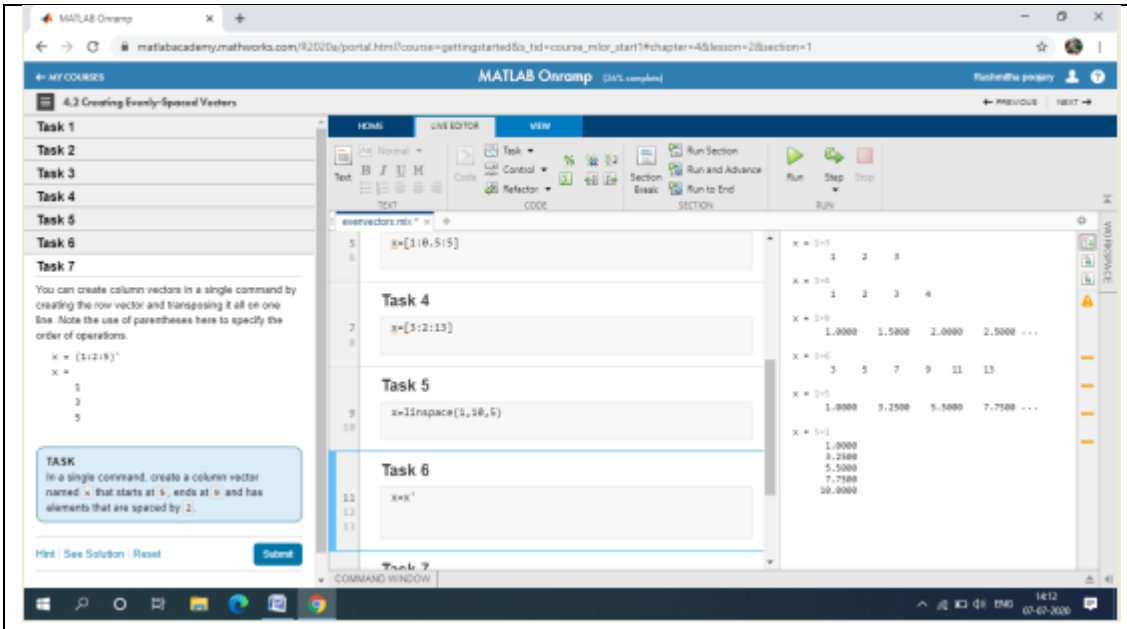
Date:	**07-07-2020**	**Name:**	**Sahana S R**
Course:	**Matlab from mathworld**	**USN:**	**4AL17EC083**
Topic:	**Matlab desktop and editor,vectors and matrices,indexing into and modifying arrays**	**Semester & Section:**	**6th sem 'B' sec**
Github Repository:	**sahanasr-course**		

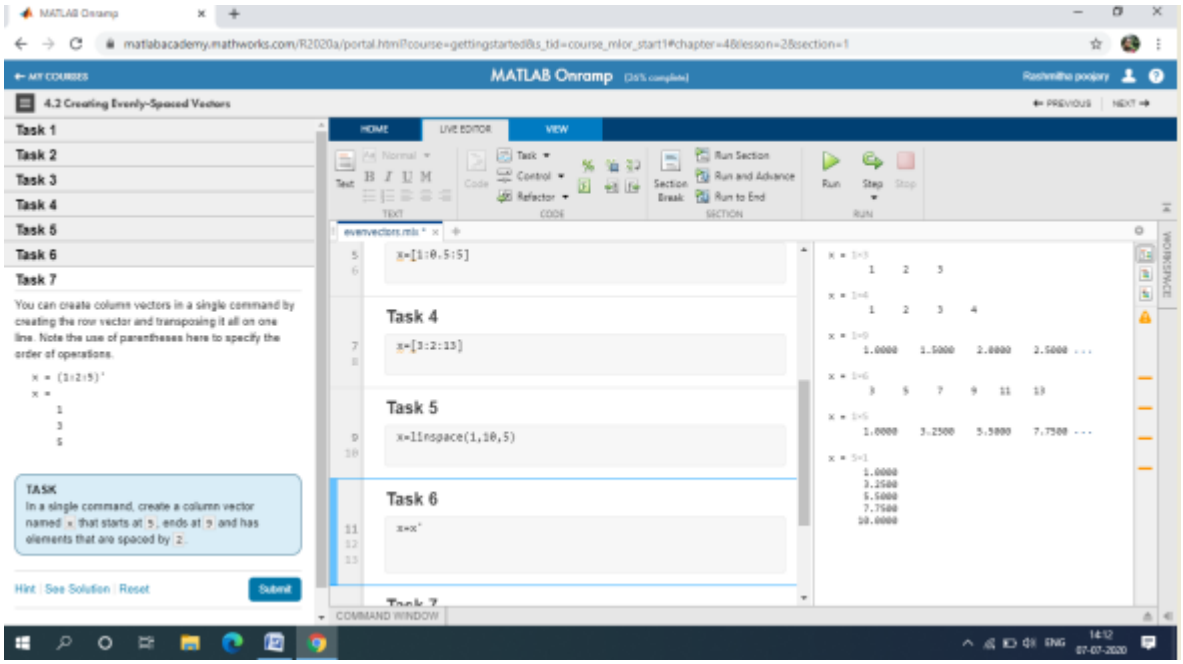
FORENOON SESSION DETAILS

Image of session






MATLAB Onramp
4.2 Creating Evenly-Spaced Vectors
Task 1
Task 2
Task 3
Task 4
Task 5
Task 6
Task 7
You can create column vectors in a single command by creating the row vector and transposing it all on one line. Note the use of parentheses here to specify the order of operations.
x = (1:2:5)'
x =
1
3
5
TASK
In a single command, create a column vector named x that starts at 5, ends at 9 and has elements that are spaced by 2.
Hint | See Solution | Reset
Submit
x=[1:0.5:5]
Task 4
x=[3:2:13]
Task 5
x=linspace(1,10,5)
Task 6
x=x'
COMMAND WINDOW


MATLAB Onramp
4.2 Creating Evenly-Spaced Vectors
Task 1
Task 2
Task 3
Task 4
Task 5
Task 6
Task 7
You can create column vectors in a single command by creating the row vector and transposing it all on one line. Note the use of parentheses here to specify the order of operations.
x = (1:2:5)'
x =
1
3
5
TASK
In a single command, create a column vector named x that starts at 5, ends at 9 and has elements that are spaced by 2.
Hint | See Solution | Reset
Submit
x=[1:0.5:5]
Task 4
x=[3:2:13]
Task 5
x=linspace(1,10,5)
Task 6
x=x'
COMMAND WINDOW

Vectors and Matrices. Vectors and matrices combine separate scalar data into a single, multidimensional signal. Modify individual elements or perform arithmetic on entire vectors and matrices. In C charts, use MATLAB functions to perform standard matrix multiplication and division. MATLAB is an abbreviation for "matrix laboratory." While other programming languages mostly work with numbers one at a time, MATLAB® is designed to operate primarily on whole matrices and arrays.

All MATLAB variables are multidimensional arrays, no matter what type of data. A matrix is a two-dimensional array often used for linear algebra.

```
a = [1 2 3 4]
a = 1×4

     1     2     3     4
a = [1 2 3; 4 5 6; 7 8 10]
a = 3×3

     1     2     3
     4     5     6
     7     8    10
```

Another way to create a matrix is to use a function, such as ones, zeros, or rand. For example, create a 5-by-1 column vector of zeros.

```
z = zeros(5,1)
z = 5×1

     0
     0
     0
     0
     0
```

Array indexing:

Every variable in MATLAB is an array that can hold many numbers. When you want to access selected elements of an array, use indexing.

For example, consider the 4-by-4 magic square A:

```
A = magic(4)
A = 4×4

    16     2     3    13
     5    11    10     8
     9     7     6    12
```

```
    4    14    15     1
```

```
A(4,2)
ans = 14
```

Less common, but sometimes useful, is to use a single subscript that traverses down each column in order:

```
A(8)
ans = 14
```

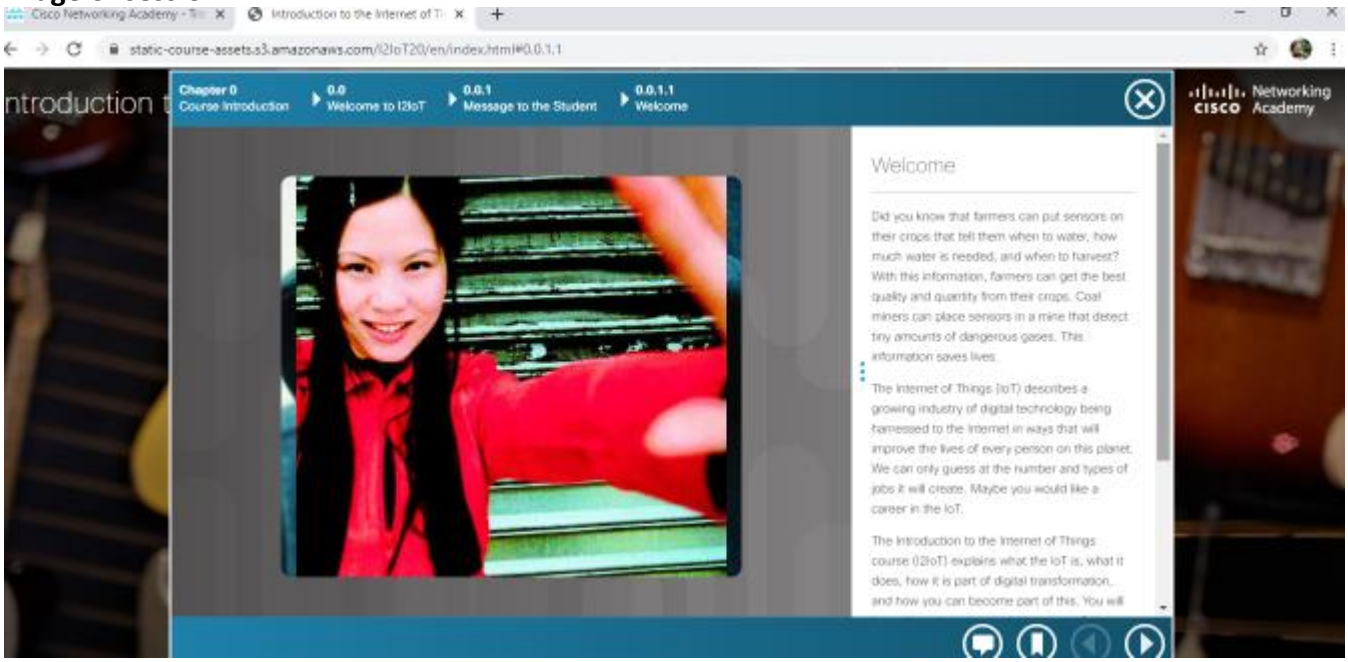
Using a single subscript to refer to a particular element in an array is called linear indexing.

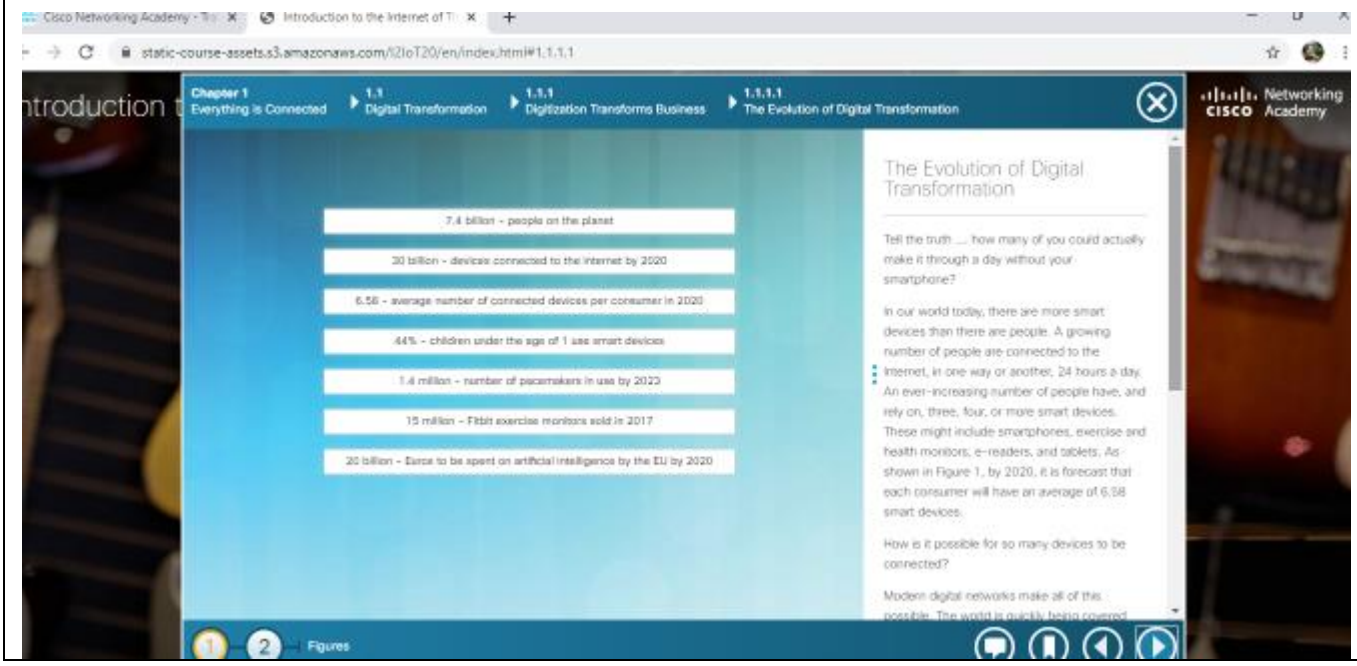
DAILY ASSESSMENT FORMAT

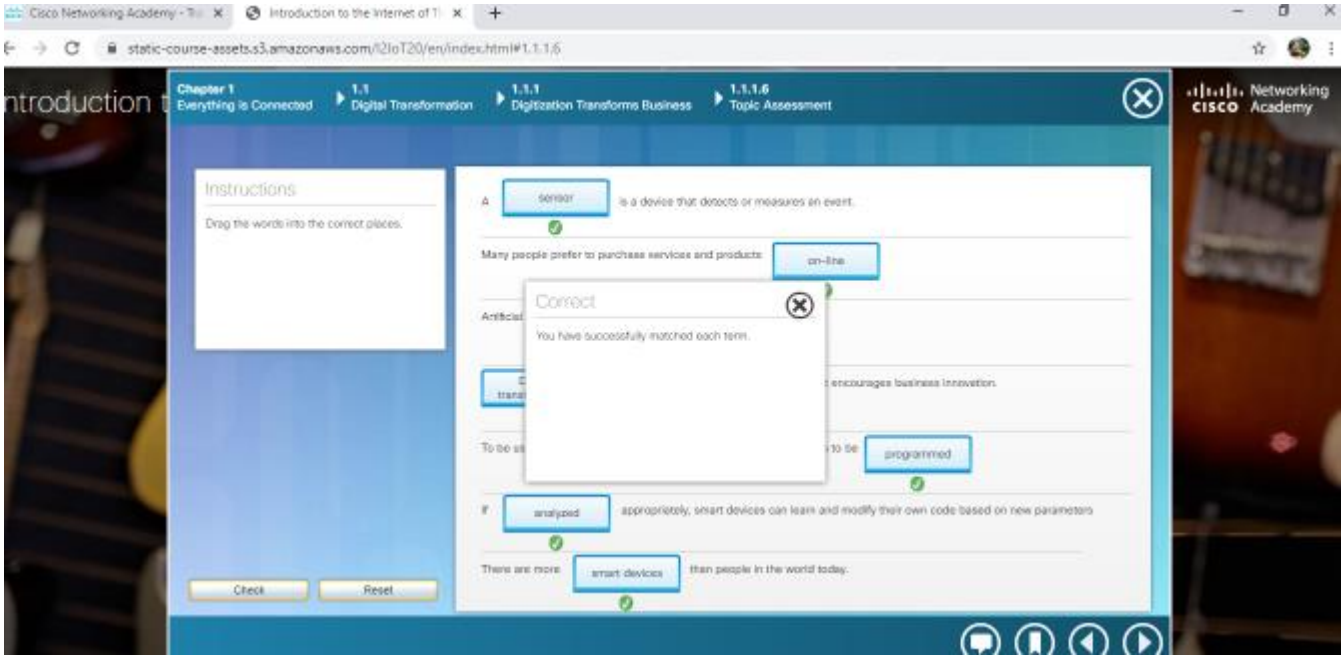
Date:	07-07-2020	Name:	Sahana S R
Course:	Cisco certification course	USN:	4AL17EC083
Topic:	Introduction to internet of things	Semester & Section:	6th sem 'B' sec
Github Repository:	sahanasr-course		

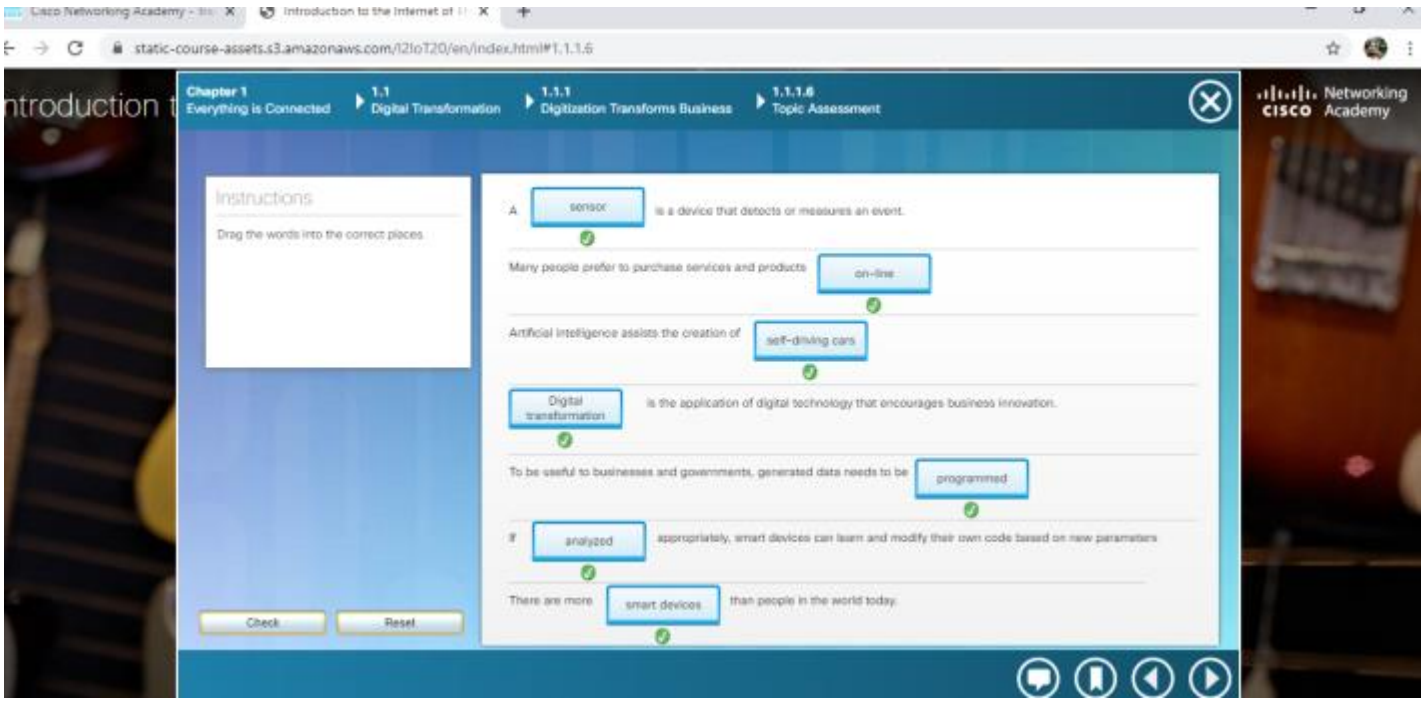
AFTERNOON SESSION DETAILS

Image of session






static-course-assets.s3.amazonaws.com/I2IoT20/en/index.html#1.1.1.6
Chapter 1 Everything is Connected
1.1 Digital Transformation
1.1.1 Digitization Transforms Business
1.1.1.6 Topic Assessment
Networking Academy
Instructions
Drag the words into the correct places.
Check
Reset
A sensor is a device that detects or measures an event.
Many people prefer to purchase services and products on-line
Correct
You have successfully matched each term.
programmed
If analyzed appropriately, smart devices can learn and modify their own code based on new parameters
There are more smart devices than people in the world today.


static-course-assets.s3.amazonaws.com/I2IoT20/en/index.html#1.1.1.6
Chapter 1 Everything is Connected
1.1 Digital Transformation
1.1.1 Digitization Transforms Business
1.1.1.6 Topic Assessment
Networking Academy
Instructions
Drag the words into the correct places.
Check
Reset
A sensor is a device that detects or measures an event.
Many people prefer to purchase services and products on-line
Artificial intelligence assists the creation of self-driving cars
Digital transformation is the application of digital technology that encourages business innovation.
To be useful to businesses and governments, generated data needs to be programmed
If analyzed appropriately, smart devices can learn and modify their own code based on new parameters
There are more smart devices than people in the world today.

Introduction to Internet of Things (IoT)

Internet of Things (IoT) is the networking of physical objects that contain electronics embedded within their architecture in order to communicate and sense interactions amongst each other or with respect to the external environment. In the upcoming years, IoT-based technology will offer advanced levels of services and practically change the way people lead their daily lives. Advancements in medicine, power, gene therapies, agriculture, smart cities, and smart homes are just a very few of the categorical examples where IoT is strongly established.
Over 9 billion 'Things' (physical objects) are currently connected to the Internet, as of now. In the near future, this number is expected to rise to a whopping 20 billion.

here are four main components used in IoT:

1. **Low-power embedded systems –**
   Less battery consumption, high performance are the inverse factors play a significant role during the design of electronic systems.
2. **Cloud computing –**
   Data collected through IoT devices is massive and this data has to be stored on a reliable storage server. This is where cloud computing comes into play. The data is processed and learned, giving more room for us to discover where things like electrical faults/errors are within the system.
3. **Availability of big data –**
   We know that IoT relies heavily on sensors, especially real-time. As these electronic devices spread throughout every field, their usage is going to trigger a massive flux of big data.
4. **Networking connection –**
   In order to communicate, internet connectivity is a must where each physical object is represented by an IP address. However, there are only a limited number of addresses available according to the IP naming. Due to the growing number of devices, this naming system will not be feasible anymore. Therefore, researchers are looking for another alternative naming system to represent each physical object.

Characteristics of IoT:

- Massively scalable and efficient
- IP-based addressing will no longer be suitable in the upcoming future.
- An abundance of physical objects is present that does not use IP, so IoT is made possible.
- Devices typically consume less power. When not in use, they should be automatically programmed to sleep.
- A device that is connected to another device right now may not be connected in another instant of time.
- Intermittent connectivity – IoT devices aren't always connected. In order to save bandwidth and battery consumption, devices will be powered off periodically when not in use. Otherwise, connections might turn unreliable and thus prove to be inefficient.