**DAILY ASSESSMENT FORMAT**

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| **Date:** | 07 July 2020 | **Name:** | Anupama J S |
| **Course:** | Matlab Onramp | **USN:** | 4AL16EC005 |
| **Topic:** | Indexing into and modifying arrays, array calculations,  calling functions,  obtaining help,  plotting dara,  review problems. | **Semester & Section:** | 8th sem “A”section |
| **Github Repository:** | AnupamaJS |  |  |

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| **FORENOON SESSION DETAILS** |
| C:\Users\User\Downloads\WhatsApp Image 2020-07-07 at 9.45.23 PM.jpeg  C:\Users\User\Downloads\WhatsApp Image 2020-07-07 at 9.45.23 PM (1).jpeg  REPORT –  Indexing with Element Positions  The most common way is to explicitly specify the indices of the elements. For example, to  access a single element of a matrix, specify the row number followed by the column number of  the element.  A = [1 2 3 4; 5 6 7 8; 9 10 11 12; 13 14 15 16]  A = 4×4  1 2 3 4  5 6 7 8  9 10 11 12  13 14 15 16  e = A(3,2)  e = 10  e is the element in the 3,2 position (third row, second column) of A.  You can also reference multiple elements at a time by specifying their indices in a vector. For  example, access the first and third elements of the second row of A.  r = A(2,[1 3])  r = 1×2  5 7  To access elements in a range of rows or columns, use the colon. For example, access the  elements in the first through third row and the second through fourth column of A.  r = A(1:3,2:4)  r = 3×3  2 3 4  6 7 8  10 11 12  An alternative way to compute r is to use the keyword end to specify the second column through  the last column. This approach lets you specify the last column without knowing exactly how  many columns are in A.  r = A(1:3,2:end)  r = 3×3  2 3 4  6 7 8  10 11 12  If you want to access all of the rows or columns, use the colon operator by itself. For example,  return the entire third column of A.  r = A(:,3)  r = 4×1  3  7  11  15  In general, you can use indexing to access elements of any array in MATLAB regardless of its  data type or dimensions. For example, directly access a column of a datetime array.  t = [datetime(2018,1:5,1); datetime(2019,1:5,1)]  t = 2x5 datetime  01-Jan-2018 01-Feb-2018 01-Mar-2018 01-Apr-2018 01-May-2018  01-Jan-2019 01-Feb-2019 01-Mar-2019 01-Apr-2019 01-May-2019  march1 = t(:,3)  march1 = 2x1 datetime  01-Mar-2018  01-Mar-2019  For higher-dimensional arrays, expand the syntax to match the array dimensions. Consider a  random 3-by-3-by-3 numeric array. Access the element in the second row, third column, and first  sheet of the array.  A = rand(3,3,3);  e = A(2,3,1)  e = 0.5469  To call a function, such as max, enclose its input arguments in parentheses:  A = [1 3 5];  max(A)  ans = 5  If there are multiple input arguments, separate them with commas:  B = [10 6 4];  max(A,B)  ans = 1×3  10 6 5  Return output from a function by assigning it to a variable:  maxA = max(A)  maxA = 5  When there are multiple output arguments, enclose them in square brackets:  [maxA,location] = max(A)  maxA = 5  location = 3  Enclose any character inputs in single quotes:  disp('hello world')  hello world  To call a function that does not require any inputs and does not return any outputs, type only the  function name:  clc  The clc function clears the Command Window. |

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| **Date:** | 7 July 2020 | **Name:** | Anupama J S |
| **Course:** | Cisco Certification Course:  Introduction to  Internet of Things | **USN:** | 4AL16EC005 |
| **Topic:** | 3rd chapter | **Semester & Section:** | 8th sem “A”section |
| **Github Repository:** | AnupamaJS |  |  |
| **AFTERNOON SESSION DETAILS** | | | |
| **C:\Users\User\Pictures\1 (2).png**  What Does Real-Time Data Processing Mean for IoT Applications?As IoT adoption continues to rise, organizations from every sector struggle to keepup with these massive datasets expanding at exponential rates. As a point ofreference, IoT devices and sensors can capture gigabytes of data within a fewhours–and that’s before you consider the data coming from your CRM, socialmedia channels, financial reports, and so on.At the same time, big data analytics, and AI & machine learning are evolving at abreak-neck pace. By applying AI to IoT data management and analytics,organizations can quickly pull valuable information from these massive,heterogeneous data sets and respond to real-time conditions. Together, thesetechnologies are driving game-changing innovations. For example, big data’sinherent characteristics (aka the 4Vs) are perfect for “training” AI and MLapplications fast.Those intelligent applications can then be used to automate processes, predictequipment failures, detect security threats–in real-time. In the case of fully-autonomous solutions, AI takes the wheel, relying on a connected network of IoTdevices to guide the way.Withsignificant gains in autonomous drivingat all levels, real-time analytics cansupport drivers with safety features like automatic braking, parking, and collisionavoidance by transmitting data.  While there are endless examples of what AI, advanced analytics, and the IoT canaccomplish, they can’t deliver on those promises without the right tools.Real-Time Insights Depend on Powerful ComputingMost of the IoT platforms in use today were designed to connect the variousdevices within a network and merge and process data streams from severalheterogeneous sources.These platforms often address many of the challenges IoT presents like storage,security, and interoperability and can integrate with data analytics solutions toprovide valuable business insights. But because most data analytics solutions use acloud computing architecture called Platform as a Service (PaaS), real-time dataprocessing isn’t possible.According to arecent Dell report, using cloud-based systems to process IoT datahas several limitations, including security risks, latency, and missed opportunitiesto act on powerful, real-time insights.While IoT data streams themselves capture what’s happening in-the-moment,processing those data streams means sending them to the cloud for off-line analysisand processing, which can then be reviewed at a later time.You’re also working within a system where you’re sending information to a remotelocation at a volume that may exceed network bandwidth and waste storage spaceand computing power on unusable insights.The report found that while just 29% of participating firms have incorporated edgecomputing into their analytics strategies, 69% of respondents agreed thatprioritizing edge for processing IoT data would help them achieve their primarybusiness goals.However, it’s worth noting that edge computing alone won’t unlock the door to real-time data analytics.  One of the best ways to help defend your networked devices is to make sure that your router is secure. That way, it can protect your entire home Wi-Fi network and the devices connected to it. Think of your Wi-Fi router as the front door to your online world.The Internet of Things is designed to make our lives more convenient. Here are a few examples:   * Smart bathroom scales working in tandem with your treadmill, delivering food preparation ideas to your laptop or smartphone, so you stay healthy. * Security devices monitoring your home, turning lights on and off as you enter and exit rooms, and streaming video so you can check in while you’re away. * Smart voice assistants placing your usual takeout order on command, making it a breeze to get fresh food delivered to your door | | | |