I will showcase a variety of different deployment errors and how to identify & overcome them.

1. Intellisense errors
   1. Create a new file (CTRL + N) in VS Code
   2. Copy and paste THE CONTENTS of the file : “ARM Templates - Troubleshooting templates and deployments - Demo 1 – SimpleVM.txt” into the new file
   3. **Issue 1**
      1. Ask the class if anything appears incorrect. There isn’t any underlying or color coding or even a template resource outline
      2. Since the file is not named “.JSON” then the VS Code extension doesn’t know it should be checking said file
      3. **Fix**: Save the file as .JSON and you’ll notice intellisense suddenly start to work
         1. Point out the color coding, the ‘ARM Template Outline’ now shows the section of the template, etc

For each issue thereafter, feel free to try a deployment after each fix to see/show if there are any remaining issues

* 1. **Issue 2 – 4 –** Scroll through the template to give the class a chance to see issues
     1. Issue 2. Click on the ‘problems’ view at the bottom of VSCode and click on each highlighted error
        1. Extra comma line 15 after ‘metadata’ section
        2. There is no additional property entered for parameter ‘adminPassword’ after the property ‘metadata’.
           1. Remove the extra comma at the end of line 15
     2. Issue 3. Line 80 – This error isn’t as obvious so you’ll need to count the number of open squiggly brackets to closed squiggly brackets within the public IP resource. Start at Line 70 the beginning of the public IP resource
        1. Line 80 has an extra “}” added to it. Remove it
     3. Issue 4. The string value, Dynamic, though it is not a function like a parameter, it is a string and therefore must be defined as a string.
        1. It needed double quotes on each side “Dynamic”
     4. You can safely ignore the WARNING message on storage account name length. Since it is based on a variable, VSCode doesn’t actually know what the true length will be

1. Name in-use – non globally unique resource name
   1. Deploy template “ARM Templates - Troubleshooting templates and deployments - NameInUse.json” found in Raw Files using any method you deem fit (Portal, Powershell, etc)
   2. Decode the error message to show the main cause of deployment failure
      1. Issue is the storage account name is already taken / not globally unique
      2. Line 8 of the JSON shows the name field that is static and not programmatic
2. Resource dependencies not defined
   1. Deploy template “ARM Templates - Troubleshooting templates and deployments - InvalidResourceReference.json” found in Raw Files
   2. NIC will fail on 1st deployment. It will succeed on 2nd deployment. Point out that the NIC on line 8 does not have dependencies defined “DependsOn” which explains why it failed the 1st time (the VNet wasn’t deployed yet) and succeeded the 2nd time (VNet was already deployed)
   3. Add a “DependsOn” after line 11 pointing to the VNet name (found on line 21). An example is found on line 25
3. Invalid parameter input
   1. Run template “ARM Templates - Troubleshooting templates and deployments - InvalidTemplate\_validation.json” with the following code:
      1. New-AzResourceGroupDeployment -Name storage -ResourceGroupName storage -TemplateFile ‘TEMPLATE FILE PATH’ -StorageAcctSKU "Premium\_LRS" -Verbose
   2. Show the parameters from the template which indicate a restriction on the values allowed for the parameter.
   3. Re run the template deployment but change the ‘StorageAcctSKU’ to ‘Standard\_LRS’