Record your reasons for implementing the solution the way you did, struggles you faced and problems you overcame.

* I decided to develop AWS Lambda-based vanity number generator using Python and the NLTK library, with NLTK library as a dictionary you can check that the generated vanity numbers were actual words
* Encountered compatibility issues between the NLTK library and Lambda due to the Windows OS-installed version
* Installed the NLTK library on an Ubuntu WSL and created a Lambda layer from it to overcome the compatibility issue, I learned how to create lambda layers with linux while using this workaround
* NLTK library still needs to download words file to check for actual english words, since lambda have a limited memory allocation, I looked for ways to store it on lambda’s temp folder
* The amazon connect also needs a claimed phone number for testing, since I can’t claim a phone number I checked the sample templates provided by AWS to create a flow with lambda integration and followed the template while making adjustments based on my requirements

What shortcuts did you take that would be a bad practice in production?

* For the shortcuts I did, I think it would be better to download the list of words as actual files instead of using a temp folder, this way the function will just need to lookup the words on the file
* I wasn’t able to test the Amazon Connect flows since I can’t claim a phone number on my amazon account, it would be better to claim a phone number first while creating the flow so you can test the lambda integration and the actual output

What would you have done with more time? We know you have a life. :-)

* With more time I will add a function that selects the most commonly used english words, this will output better combinations but since we have thousands of possible combinations the processing time for this will take longer.
* To optimize the processing time I plan to use AWS Glue and Pandas dataframe to process the large amount of possible combinations
* My AWS account is also new so I wasn’t able to wait for my request to claim a phone number for Amazon Connect and to verify my account, I plan to use the phone number to test the inbound calls for Amazon Connect and test the lambda integration

**Architecture Diagram**

