// Gayel (Imad) Abou Imad - 161233

// Myriam (Fouad) Turk – 172038

TP 2 – Exploring LoRa Technology – Performance Evaluation – Collisions and Packet Delivery Ratio

Questions to be Answered :

* Draw the PDR as a function of the average arrival rate. Analyze your results.
* What type of mathematical model enables to theoretically compute the PDR? Verify the obtained results.

We have repeated this experiment 5 times. The difference between each, was that we were changing the spreading factor or the delay between each sent message. we agreed on sending the same message with small changes in order to recognize the sender’s number and the message number. The message would look like the following :

Sender#<Groupe\_Sender\_Number><0\_or\_1>:<Message\_Number>:Hello World

In order to compute the PDR value. We counted the number of packets that we received, then we divided by the total number of messages that were sent by a single device.

As an output we have managed to get a dictionary (key value pairs) containing the percentage of messages that we received by a specific sender. Example :

Average Doctionnary:

{'80': 0.76, '9.1': 0.12, '19.1': 0.73, '9.0': 0.91, '16.1': 0.52, '41.1': 0.88, '10.0': 0.43, '5.0': 0.64, '12.1': 0.94, '3.0': 0.56, '12.0': 0.94, '6.1': 0.9, '6.0': 0.88, '81': 0.83, '10.1': 0.64, '7.1': 0.95, '7.0': 0.93, '1.1': 0.91, '3.1': 0.73, '5.1': 0.83, '1.0': 0.81}

We can see in the extract above, that the sender number 0 of group 8 has an average of 76 %.