**BLEU, ROUGE1, ROUGE2, ROUGE-L SCORES**

Table 3: Experimental results and their outcomes.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Metrices | | Max\_new\_token=100  temp=10e-6,  repetition\_penalty=1.11,  chunk\_size=1000  chunk\_overlap=100 | Max\_new\_token=120  temp=10e-5,  repetition\_penalty=1.05,  chunk\_size=1200  chunk\_overlap=200 | Max\_new\_token=80  temp=10e-4,  repetition\_penalty=1.2,  chunk\_size=800  chunk\_overlap=100 | Max\_new\_token=60  temp=0.01,  repetition\_penalty=1.1,  chunk\_size=800  chunk\_overlap=200 |
| Blue | | 0.4708689 | 0.38747 | 0.342 | 0.421 |
| Rouge 1 | Precision | 0.6797 | 0.5285 | 0.515 | 0.557 |
| Recall | 0.816 | 0.833 | 0.819 | 0.770 |
| Fmeasure | 0.718 | 0.594 | 0.588 | 0.599 |
| Rouge 2 | Precision | 0.591 | 0.449 | 0.416 | 0.471 |
| Recall | 0.694 | 0.7309 | 0.696 | 0.680 |
| Fmeasure | 0.622 | 0.503 | 0.475 | 0.506 |
| Rouge L | Precision | 0.614 | 0.495 | 0.470 | 0.511 |
| Recall | 0.753 | 0.7867 | 0.761 | 0.720 |
| Fmeasure | 0.655 | 0.557 | 0.539 | 0.551 |

**Parameters and their Roles/ Importance with and selected Values and Possible selections**

Table 3: Various parameters and their importance with range.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameters** | **Parameters** | ***Role/Importance*** | **Selected Value** | **Possible Values** |
| **max\_new\_tokens** | Maximum number of new tokens. | The maximum numbers of tokens to generate, ignoring the number of tokens in the prompt. | 100 | [80,100,150,200,512]  Max\_value = 512 |
| temperature | Variation in response | Influences the language model's output, determining whether the output is more random and creative or more predictable | 0.0000001 | Ranges between  [0,10e-4, 10e-2,0.1,1.2,1.5,1.8,2] |
| repetition\_penalty | Used to avoid repetition | Penalizes or reduces the probability of generating tokens that have recently appeared in the generated text. | 1.11 | Generally, between  [-2.0 - 2.0] |
| chunk\_size | Size of the clustered text data. | Controls the max size (in terms of number of characters) of the final documents. | 1000 | [0-100-1000-1500] |
| Chunk\_overlap | Number of overlapping vectors. | The number of characters that should overlap between two adjacent chunks. | 120 | [0-100-1000]  Depending on document and chunk size. |
| top\_k (k) | Documents having score greater than threshold. | Specify the number of documents to fetch. | 5 | 0 – chunk\_size |
| score\_thershold | To control number of retrieved documents. | Defines the threshold above which the top\_k documents are selected. | 0.8 | 0-1 |