# GENERATIVE AI

# HANDS ON-1

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SECTION:F

| Task | Model | Classification (Success / Failure) | Observation (What actually happened?) | Why did this happen? (Architectural Reason) |
|---|---|---|---|---|
| Text Generation | BERT | Failure | The model produced incoherent and repetitive text or failed to generate meaningful output. | BERT is an encoder-only model trained for masked language modeling and cannot perform autoregressive text generation. |
| Text Generation | RoBERTa | Failure | Output was incomplete or nonsensical when used for text generation. | RoBERTa is also an encoder-only model and lacks a decoder for next-token prediction. |
| Text Generation | BART | Partial Success | The model generated text but showed repetition and topic drift. | BART has an encoder–decoder architecture, allowing generation, but bart-base is not optimized for free-form text generation. |
| Fill Mask | BERT | Success | Correctly predicted relevant words such as “applications”, “ideas”, and “problems”. | BERT is explicitly trained using Masked Language Modeling (MLM). |
| Fill Mask | RoBERTa | Success | Predicted appropriate tokens like “AI”, “intelligence”, and “systems” with high confidence. | RoBERTa improves upon BERT’s MLM training using more data and dynamic masking. |
| Fill Mask | BART | Moderate Success | Predicted reasonable words but with lower confidence compared to BERT and RoBERTa. | BART is trained for denoising and sequence-to-sequence tasks rather than pure MLM. |
| Question Answering | BERT | Failure | Returned incorrect or generic answers such | The base BERT model is not fine-tuned for |

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|---|---|---|---|---|
| | | | as “Unsupervised learning”. | question answering and lacks a trained QA head. |
| Question Answering | RoBERTa | Failure | Produced vague or incorrect answers like “Inference”. | RoBERTa-base is not fine-tuned for question answering tasks. |
| Question Answering | BART | Partial Success | Generated partially relevant but imprecise answers. | BART can generate answers but bart-base is not specifically trained for extractive QA tasks. |