

Sharvita Paithankar
Class 4800 Data Science
Lab 1

Pre-Lab 1

1) Which command should be used in order to find all python files (the files that their names end with .py)
Under Models -master/official/nlp?

Run your command and take a screenshot from the terminal (your command should be included in the screenshot as well as the top ten file names in the output). [20 points]

I used the following command :

find /Users/sharvitapaithankar/Downloads/models-master/official/nlp -type f -name '*.py'

```
(base) Sharvit-MacBook-Pro:~ sharvitapaithankar$ find /Users/sharvitapaithankar/Downloads/models-master/official/nlp -type f -name 'py'  
(base) Sharvit-MacBook-Pro:~ sharvitapaithankar$ find /Users/sharvitapaithankar/Downloads/models-master/official/nlp -type f -name '.py'  
(base) Sharvit-MacBook-Pro:~ sharvitapaithankar$ ls  
README.md bert keras_nlp optimization.py xlnet  
__init__.py configs modeling tasks  
albert data nnhub transformer  
(base) Sharvit-MacBook-Pro:~ sharvitapaithankar$ find /Users/sharvitapaithankar/Downloads/models-master/official/nlp -type f -name '*.py'  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/albert/configs.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/albert/run_squad.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/albert/run_classifier.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/albert/run_lm_head.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/albert/run_lm_test.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/albert/export_albert_tfhub.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/albert/tf2_albert_encoder_checkpoint_converter.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/tasks/question_answering.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/tasks/qa_kg.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/tasks/question_answering_test.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/tasks/_init_.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/tasks/sentence_prediction.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/tasks/utils.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/tasks/tagging_test.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/tasks/electra_task_test.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/tasks/source_prediction.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/tasks/seq2seq.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/tasks/masked_lm.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/tasks/masked_lm_test.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/transformer/model_params.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/transformer/model_utils.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/transformer/metrics.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/transformer/misc.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/transformer/layer_norm.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/transformer/translate.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/transformer/embedding_layer.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/transformer/compute_bleu.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/transformer/data_pipeline.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/transformer/model_utils.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/transformer/transformer.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/transformer/transformer_main_test.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/transformer/embedding_layer.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/transformer/compute_bleu.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/transformer/_init_.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/transformer/attention_layer.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/transformer/data_download.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/keras_nlp/layers/_init_.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/keras_nlp/layers/transformer_encoder_block.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/keras_nlp/layers/transformer_encoder_block.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/keras_nlp/_init_.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/compute_bleu_test.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/beam_search_v1.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/attention_layer.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data_download.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/layers/_init_.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/keras_nlp/layers/transformer_encoder_block_test.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/keras_nlp/layers/transformer_encoder_block.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/keras_nlp/_init_.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/optimization.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/_init_.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/modeling/losses/weighted_sparse_categorical_crossentropy_test.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/modeling/losses/_init_.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/modeling/losses/weighted_sparse_categorical_crossentropy.py  
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/modeling/layers/masked_softmax_test.py
```

```
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/on_device_embedding_test.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/attention.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/transformer_test.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/dense_einsum.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/talkin g_heads_attention_test.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/util.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/cls_head_test.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/margin_with_margin.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/_init_.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/multi_channel_attention.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/position_embedding_test.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/self_attention_mask.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/softmax_kronecker.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/on_device_embedding.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/dense_einsum.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/multi_channel_attention_test.py
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/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/cls_head.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/transformer_scaffold.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/transformer_scaffold_test.py
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/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/masked_lm.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/masked_mul_with_margin_test.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/masked_lm_test.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/gated_feedforward.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/layers/_init_.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/models/dual_encoder_test.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/models/bert_pretrainer.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/models/electra_pretrainer_test.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/models/bert_classifier.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/models/bert_classifier_test.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/models/bert_span_labeler.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/models/bert_span_labeler_test.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/models/dual_encoder.py
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/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/models/bert_token_classifier.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/models/electra_pretrainer.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/models/bert_span_labeler.py
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/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/networks/span_labeling_test.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/networks/_init_.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/networks/albert_transformer_encoder.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/networks/encode_scaffold_test.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/networks/albert_transformer_encoder_test.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/networks/_init_.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/networks/classification_test.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/networks/bert_encoder.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/networks/mobile_bert_encoder.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/networks/span_labeling.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/networks/mobile_bert_encoder_test.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/networks/albert_transformer_encoder_test.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/ops/segment_extractor-test.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/ops/segment_extractor.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/ops/_init__.py
/Users/shavitapai thankar/Downloads/models=master/nlp/modelling/ops/beam_search.py
```

```
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/modeling/ops/batch_size_test.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/bert/common_flags.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/bert/tf2_encoder_checkpoint_converter.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/bert/input_pipeline.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/bert/squad_evaluate_v2_0.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/bert/run_squad.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/bert/model_training_utils.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/bert/tokenization_test.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/bert/run_squad.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/bert/_init__.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/bert/tokenization.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/bert/export_tfhub.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/bert/run_pretraining.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/bert/run_classifier.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/bert/tf1_checkpoint_converter_lib.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/bert/run_squad_helper.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/bert/export_tfhub_test.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/bert/run_squad_models.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/bert/model_training_utils.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/bert/bert_models_test.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/bert/squad_evaluate_v1_1.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/configs/_init__.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/configs/electra.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/configs/gpt2.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/configs/bert.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/nhnet/raw_data_process.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/nhnet/decoder.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/nhnet/models_test.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/nhnet/configs.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/nhnet/pipeline.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/nhnet/trainer.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/nhnet/models.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/nhnet/decoder_test.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/nhnet/evaluation.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/nhnet/_init__.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/nhnet/utils.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/nhnet/word_processor.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/nhnet/optimizer.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/nhnet/trainer.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/nhnet/configs_test.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/xlnet/comm_flags.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/xlnet/run_pretrain.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/xlnet/optimization.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/xlnet/run_squad.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/xlnet/_init__.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/xlnet/preprocess_classification_data.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/xlnet/xlnet_modeling_test.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/xlnet/preprocess_uts.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/xlnet/classifier.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/xlnet/config.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/xlnet/data_utils.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/xlnet/training_utils.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/xlnet/preprocess_squad_data.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/xlnet/classifier_utils.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/xlnet/xlnet_modeling.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/xlnet/preprocess_uts.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/xlnet/preprocess_pretrain_data.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/data/tagging_data.lib.test.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/data/create_finetuning_data.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/data/pretrain_dataloader.test.py
/Users/sharvitapaihankar/Downloads/models-master/official/nlp/data/question_answering_dataloader.py
```

```
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/pretrain_dataloader_test.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/question_answering_dataloader.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/pretrain_dataloader.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/tagging_data_lib.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/tagging_dataloader_test.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/wmt_dataloader_test.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/squad_lib.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/wmt_dataloader.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/data_loader.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/data_loader_factory_test.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/__init__.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/tagging_dataloader.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/squad_lib_sp.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/sentence_retrieval_lib.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/data_loader_factory.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/create_pretraining_data.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/classifier_data_lib.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/sentence_prediction_dataloader_test.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/create_pretraining_data_test.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/question_answering_dataloader_test.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/sentence_prediction_dataloader.py
(base) Sharvitash-MacBook-Pro:nlp sharvitapaithankar$ █
```

- 1) Modify your command so that it sorts the list of python files under models-master/official/nlp Lexicographically. Take a screenshot from your command and the top ten files. [20 points]

I used the following command:

```
find /Users/sharvitapaithankar/Downloads/models-master/official/nlp -type f -name '*.py' | sort
```

```
/Users/sharvitapaithankar/Downloads/models-master/master/nlp/sharvitapaithankar$ find /Users/sharvitapaithankar/Downloads/models-master/official/nlp -type f -name '*.py' | sort
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/__init__.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/albert/__init__.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/albert/configs.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/albert/export_albert_tfhub.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/albert/export_albert_tfhub_test.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/albert/fun_classifier.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/albert/run_squad.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/albert/tf2_albert_encoder_checkpoint_converter.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/bert/__init__.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/bert/bert_models.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/bert/bert_models_test.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/bert/common_flags.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/bert/configs.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/bert/export_tfhub.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/bert/export_tfhub_test.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/bert/input_pipeline.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/bert/model_saving_utils.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/bert/model_training_utils.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/bert/model_training_utils_test.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/bert/run_classifier.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/bert/run_pretraining.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/bert/run_squad.py
[Users/sharvitapaithankar/Downloads/models-master/official/nlp/bert/run_squad_helper.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/bert/serving.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/bert/squad_evaluate_v1_1.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/bert/squad_evaluate_v2_0.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/bert/tf1_checkpoint_converter_lib.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/bert/tf2_encoder_checkpoint_converter.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/bert/tokenization.py
```

```
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/Users/sharvitapaithankar/Downloads/models-master/official/nlp/configs/electra.py
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/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/tagging_data_lib_test.py
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/Users/sharvitapaithankar/Downloads/models-master/official/nlp/data/wmt_dataloader_test.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/keras_nlp/__init__.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/keras_nlp/layers/__init__.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/keras_nlp/layers/transformer_encoder_block.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/keras_nlp/layers/transformer_encoder_block_test.py
/Users/sharvitapaithankar/Downloads/models-master/official/nlp/modeling/__init__.py
```



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/Users/sharvitapaitankar/Downloads/models--master/official/nlp/modeling/networks/encoder_scaffold_test.py
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/Users/sharvitapaitankar/Downloads/models--master/official/nlp/modeling/networks/mobile_bert_encoder_test.py
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/Users/sharvitapaitankar/Downloads/models--master/official/nlp/modeling/ops/segment_extractor_test.py
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/Users/sharvitapaitankar/Downloads/models--master/official/nlp/nnnet/decoder.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/nnnet/decoder_test.py
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/Users/sharvitapaitankar/Downloads/models--master/official/nlp/nnnet/models_test.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/nnnet/optimizer.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/nnnet/raw_data_process.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/nnnet/raw_data_processor.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/nnnet/trainer.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/nnnet/trainer_test.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/nnnet/utils.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/optimization.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/tasks/__init__.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/tasks/electra_task.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/tasks/electra_task_test.py
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/Users/sharvitapaitankar/Downloads/models--master/official/nlp/tasks/question_answering.py
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/Users/sharvitapaitankar/Downloads/models--master/official/nlp/tasks/tagging_test.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/tasks/utils.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/transformer/__init__.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/transformer/attention_layer.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/transformer/beam_search_v1.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/transformer/compute_bleu.py
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/Users/sharvitapaitankar/Downloads/models--master/official/nlp/transformer/optimizer.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/transformer/transformer.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/transformer/transformer_forward_test.py
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/Users/sharvitapaitankar/Downloads/models--master/official/nlp/transformer/translate.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/transformer/utils/__init__.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/transformer/utils/metrics.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/transformer/utils/tokenizer.py
```

```
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/xlnet/__init__.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/xlnet/classifier_utils.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/xlnet/common_flags.py
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/Users/sharvitapaitankar/Downloads/models--master/official/nlp/xlnet/xlnet_modeling.py
/Users/sharvitapaitankar/Downloads/models--master/official/nlp/xlnet/xlnet_modeling_test.py
(base) Sharvitas-MacBook-Pro:nlp sharvitapaitankar$ █
```

Now use the above tools to answer some analysis questions:

3. What are the 5 most frequently visited URLs (consider only the .html pages)?

Your command must only output the top 5 URLs and their counts. Provide a screenshot, including your command and its output. [20 points]

```
(base) Sharvitas-MacBook-Pro:Downloads sharvitapaithankar$ grep ".html" wc_day6_1.log | cut -d " " -f7 | sort | uniq -c | sort | tail -5
 90 /french/index.html
370 /english/nav_top_inet.html
388 /english/nav_inet.html
391 /english/splash_inet.html
395 /english/index.html
```

4. How many URLs do have return code 200? [20 points]

```
(base) Sharvitas-MacBook-Pro:Downloads sharvitapaithankar$ grep "200" wc_day6_1.log | cut -d " " -f9 | sort | uniq -c | sort | tail -5
 7 304
39793 200
```

5. Write a command that converts the “The quick brown fox jumps over the lazy dog.” To “quick The brown fox jumps Over Lazy The dog”. [20 points]

```
quick The brown fox jumps over lazy the dog.
(base) Sharvitas-MacBook-Pro:Downloads sharvitapaithankar$ echo "The quick brown fox jumps over the lazy dog." | sed 's/\([Tt]he \)\(([a-z]*\)\)/\2 \1/g'
"quick The brown fox jumps over lazy the dog."
(base) Sharvitas-MacBook-Pro:Downloads sharvitapaithankar$
```