NAME
train - Train a YOLOv5 model on a custom dataset. Models and datasets download automatically from the latest YOLOv5 release.

DESCRIPTION
Usage - Single-GPU training:
$ python train.py --data coco128.yaml --weights yolov5s.pt --img 640 # from pretrained (recommended)
$ python train.py --data coco128.yaml --weights '' --cfg yolov5s.yaml --img 640 # from scratch

Usage - Multi-GPU DDP training:
$ python -m torch.distributed.run --nproc_per_node 4 --master_port 1 train.py --data coco128.yaml --weights yolov5s.pt --img 640 --device 0,1,2,3

Models: https://github.com/ultralytics/yolov5/tree/master/models
Datasets: https://github.com/ultralytics/yolov5/tree/master/data
Tutorial: https://docs.ultralytics.com/yolov5/tutorials/train_custom_data

FUNCTIONS
generate_individual(input_ranges, individual_length)
Generate an individual with random hyperparameters within specified ranges.

Args:
input_ranges (list[tuple[float, float]]): List of tuples where each tuple contains the lower and upper bounds
for the corresponding gene (hyperparameter).
individual_length (int): The number of genes (hyperparameters) in the individual.

NAME
   val - Validate a trained YOLOv5 detection model on a detection dataset.

DESCRIPTION
   Usage:
      $ python val.py --weights yolov5s.pt --data coco128.yaml --img 640

   Usage - formats:
      $ python val.py --weights yolov5s.pt   # PyTorch
                              yolov5s.torchscript   # TorchScript
                              yolov5s.onnx   # ONNX Runtime or OpenCV DNN with --dnn
                              yolov5s_openvino_model   # OpenVINO
                              yolov5s.engine   # TensorRT
                              yolov5s.mlpackage   # CoreML (macOS-only)
                              yolov5s_saved_model   # TensorFlow SavedModel
                              yolov5s.pb   # TensorFlow GraphDef
                              yolov5s.tflite   # TensorFlow Lite
                              yolov5s_edgetpu.tflite   # TensorFlow Edge TPU
                              yolov5s_paddle_model   # PaddlePaddle

FUNCTIONS
   main(opt)
      Executes YOLOv5 tasks like training, validation, testing, speed, and study benchmarks based on provided options.
      Args:
         opt (argparse.Namespace): Parsed command-line options.
            This includes values for parameters like 'data', 'weights', 'batch_size', 'imgsz', 'conf_thres',

NAME
   predict - # predict.py

DATA
   args = None

FILE
   c:\users\steve\documents\github\4273project2\predict.py