License Plate Detection Model Training

Importing necessary libraries and dependencies

```
In [4]: !pip install opency-python
       Defaulting to user installation because normal site-packages is not writeable
       Requirement already satisfied: opencv-python in c:\programdata\anaconda3\lib\site-packages (4.10.0.84)
       Requirement already satisfied: numpy>=1.21.2 in c:\programdata\anaconda3\lib\site-packages (from opency-python) (1.26.4)
In [6]: import os
        import cv2
        import shutil
        import numpy as np
        import pandas as pd
        from glob import glob
        import matplotlib.pyplot as plt
        import xml.etree.ElementTree as xet
        from sklearn.model selection import train test split
In [8]: !pip install torch
       Defaulting to user installation because normal site-packages is not writeable
       Requirement already satisfied: torch in c:\programdata\anaconda3\lib\site-packages (2.3.1)
       Requirement already satisfied: filelock in c:\programdata\anaconda3\lib\site-packages (from torch) (3.13.1)
       Requirement already satisfied: typing-extensions>=4.8.0 in c:\programdata\anaconda3\lib\site-packages (from torch) (4.11.0)
       Requirement already satisfied: sympy in c:\programdata\anaconda3\lib\site-packages (from torch) (1.12)
       Requirement already satisfied: networkx in c:\programdata\anaconda3\lib\site-packages (from torch) (3.2.1)
       Requirement already satisfied: jinja2 in c:\programdata\anaconda3\lib\site-packages (from torch) (3.1.4)
       Requirement already satisfied: fsspec in c:\programdata\anaconda3\lib\site-packages (from torch) (2024.3.1)
       Requirement already satisfied: mkl<=2021.4.0,>=2021.1.1 in c:\programdata\anaconda3\lib\site-packages (from torch) (2021.4.0)
       Requirement already satisfied: intel-openmp==2021.* in c:\programdata\anaconda3\lib\site-packages (from mkl<=2021.4.0,>=2021.1.1->torch) (2021.4.0)
       Requirement already satisfied: tbb==2021.* in c:\programdata\anaconda3\lib\site-packages (from mkl<=2021.4.0,>=2021.1.1->torch) (2021.13.0)
       Requirement already satisfied: MarkupSafe>=2.0 in c:\programdata\anaconda3\lib\site-packages (from jinja2->torch) (2.1.3)
       Requirement already satisfied: mpmath>=0.19 in c:\programdata\anaconda3\lib\site-packages (from sympy->torch) (1.3.0)
        Checking if GPU is available for training
```

```
In [13]: import torch

print(f'{torch.cuda.is_available() = }')
print(f'{torch.cuda.device_count() = }')

torch.cuda.is_available() = False
torch.cuda.device_count() = 0
In [15]: !pip install ultralytics
```

```
Defaulting to user installation because normal site-packages is not writeable
Requirement already satisfied: ultralytics in c:\programdata\anaconda3\lib\site-packages (8.2.50)
Requirement already satisfied: numpy<2.0.0,>=1.23.0 in c:\programdata\anaconda3\lib\site-packages (from ultralytics) (1.26.4)
Requirement already satisfied: matplotlib>=3.3.0 in c:\programdata\anaconda3\lib\site-packages (from ultralytics) (3.8.4)
Requirement already satisfied: opency-python>=4.6.0 in c:\programdata\anaconda3\lib\site-packages (from ultralytics) (4.10.0.84)
Requirement already satisfied: pillow>=7.1.2 in c:\programdata\anaconda3\lib\site-packages (from ultralytics) (10.3.0)
Requirement already satisfied: pyyaml>=5.3.1 in c:\programdata\anaconda3\lib\site-packages (from ultralytics) (6.0.1)
Requirement already satisfied: requests>=2.23.0 in c:\programdata\anaconda3\lib\site-packages (from ultralytics) (2.32.2)
Requirement already satisfied: scipy>=1.4.1 in c:\programdata\anaconda3\lib\site-packages (from ultralytics) (1.13.1)
Requirement already satisfied: torch>=1.8.0 in c:\programdata\anaconda3\lib\site-packages (from ultralytics) (2.3.1)
Requirement already satisfied: torchvision>=0.9.0 in c:\programdata\anaconda3\lib\site-packages (from ultralytics) (0.18.1)
Requirement already satisfied: tqdm>=4.64.0 in c:\programdata\anaconda3\lib\site-packages (from ultralytics) (4.66.4)
Requirement already satisfied: psutil in c:\programdata\anaconda3\lib\site-packages (from ultralytics) (5.9.0)
Requirement already satisfied: py-cpuinfo in c:\programdata\anaconda3\lib\site-packages (from ultralytics) (9.0.0)
Requirement already satisfied: pandas>=1.1.4 in c:\programdata\anaconda3\lib\site-packages (from ultralytics) (2.2.2)
Requirement already satisfied: seaborn>=0.11.0 in c:\programdata\anaconda3\lib\site-packages (from ultralytics) (0.13.2)
Requirement already satisfied: ultralytics-thop>=2.0.0 in c:\programdata\anaconda3\lib\site-packages (from ultralytics) (2.0.0)
Requirement already satisfied: contourpy>=1.0.1 in c:\programdata\anaconda3\lib\site-packages (from matplotlib>=3.3.0->ultralytics) (1.2.0)
Requirement already satisfied: cyclery=0.10 in c:\programdata\anaconda3\lib\site-packages (from matplotlib>=3.3.0->ultralytics) (0.11.0)
Requirement already satisfied: fonttools>=4.22.0 in c:\programdata\anaconda3\lib\site-packages (from matplotlib>=3.3.0->ultralytics) (4.51.0)
Requirement already satisfied: kiwisolver>=1.3.1 in c:\programdata\anaconda3\lib\site-packages (from matplotlib>=3.3.0->ultralytics) (1.4.4)
Requirement already satisfied: packaging>=20.0 in c:\programdata\anaconda3\lib\site-packages (from matplotlib>=3.3.0->ultralytics) (23.2)
Requirement already satisfied: pyparsing>=2.3.1 in c:\programdata\anaconda3\lib\site-packages (from matplotlib>=3.3.0->ultralytics) (3.0.9)
Requirement already satisfied: python-dateutil>=2.7 in c:\programdata\anaconda3\lib\site-packages (from matplotlib>=3.3.0->ultralytics) (2.9.0.post0)
Requirement already satisfied: pytz>=2020.1 in c:\programdata\anaconda3\lib\site-packages (from pandas>=1.1.4->ultralytics) (2024.1)
Requirement already satisfied: tzdata>=2022.7 in c:\programdata\anaconda3\lib\site-packages (from pandas>=1.1.4->ultralytics) (2023.3)
Requirement already satisfied: charset-normalizer<4,>=2 in c:\programdata\anaconda3\lib\site-packages (from requests>=2.23.0->ultralytics) (2.0.4)
Requirement already satisfied: idna<4.>=2.5 in c:\programdata\anaconda3\lib\site-packages (from requests>=2.23.0->ultralvtics) (3.7)
Requirement already satisfied: urllib3<3.>=1.21.1 in c:\programdata\anaconda3\lib\site-packages (from requests>=2.23.0-yultralytics) (2.2.2)
Requirement already satisfied: certifi>=2017.4.17 in c:\programdata\anaconda3\lib\site-packages (from requests>=2.23.0->ultralytics) (2024.6.2)
Requirement already satisfied: filelock in c:\programdata\anaconda3\lib\site-packages (from torch>=1.8.0->ultralytics) (3.13.1)
Requirement already satisfied: typing-extensions>=4.8.0 in c:\programdata\anaconda3\lib\site-packages (from torch>=1.8.0->ultralytics) (4.11.0)
Requirement already satisfied: sympy in c:\programdata\anaconda3\lib\site-packages (from torch>=1.8.0->ultralytics) (1.12)
Requirement already satisfied: networkx in c:\programdata\anaconda3\lib\site-packages (from torch>=1.8.0->ultralytics) (3.2.1)
Requirement already satisfied: jinja2 in c:\programdata\anaconda3\lib\site-packages (from torch>=1.8.0->ultralytics) (3.1.4)
Requirement already satisfied: fsspec in c:\programdata\anaconda3\lib\site-packages (from torch>=1.8.0->ultralytics) (2024.3.1)
Requirement already satisfied: mkl<=2021.4.0,>=2021.1.1 in c:\programdata\anaconda3\lib\site-packages (from torch>=1.8.0->ultralytics) (2021.4.0)
Requirement already satisfied: colorama in c:\programdata\anaconda3\lib\site-packages (from tddm>=4.64.0->ultralvtics) (0.4.6)
Requirement already satisfied: intel-openmp==2021.* in c:\programdata\anaconda3\lib\site-packages (from mkl<=2021.4.0,>=2021.1.1->torch>=1.8.0->ultralytics) (2021.4.0)
Requirement already satisfied: tbb==2021.* in c:\programdata\anaconda3\lib\site-packages (from mkl<=2021.4.0,>=2021.1.1->torch>=1.8.0->ultralytics) (2021.13.0)
Requirement already satisfied: six>=1.5 in c:\programdata\anaconda3\lib\site-packages (from python-dateutil>=2.7->matplotlib>=3.3.0->ultralytics) (1.16.0)
Requirement already satisfied: MarkupSafe>=2.0 in c:\programdata\anaconda3\lib\site-packages (from jinja2->torch>=1.8.0->ultralytics) (2.1.3)
Requirement already satisfied: mpmath>=0.19 in c:\programdata\anaconda3\lib\site-packages (from sympy->torch>=1.8.0->ultralvtics) (1.3.0)
```

In [17]: !pip install -U ipywidgets

```
Defaulting to user installation because normal site-packages is not writeable
Requirement already satisfied: ipywidgets in c:\programdata\anaconda3\lib\site-packages (8.1.3)
Requirement already satisfied: comm>=0.1.3 in c:\programdata\anaconda3\lib\site-packages (from ipywidgets) (0.2.1)
Requirement already satisfied: ipython>=6.1.0 in c:\programdata\anaconda3\lib\site-packages (from ipywidgets) (8.25.0)
Requirement already satisfied: traitlets>=4.3.1 in c:\programdata\anaconda3\lib\site-packages (from ipywidgets) (5.14.3)
Requirement already satisfied: widgetsnbextension~=4.0.11 in c:\programdata\anaconda3\lib\site-packages (from ipywidgets) (4.0.11)
Requirement already satisfied: jupyterlab-widgets~=3.0.11 in c:\programdata\anaconda3\lib\site-packages (from ipywidgets) (3.0.11)
Requirement already satisfied: decorator in c:\programdata\anaconda3\lib\site-packages (from ipython>=6.1.0->ipywidgets) (5.1.1)
Requirement already satisfied: jedi>=0.16 in c:\programdata\anaconda3\lib\site-packages (from ipython>=6.1.0->ipywidgets) (0.18.1)
Requirement already satisfied: matplotlib-inline in c:\programdata\anaconda3\lib\site-packages (from ipython>=6.1.0->ipywidgets) (0.1.6)
Requirement already satisfied: prompt-toolkit<3.1.0,>=3.0.41 in c:\programdata\anaconda3\lib\site-packages (from ipython>=6.1.0->ipywidgets) (3.0.43)
Requirement already satisfied: pygments>=2.4.0 in c:\programdata\anaconda3\lib\site-packages (from ipython>=6.1.0->ipywidgets) (2.15.1)
Requirement already satisfied: stack-data in c:\programdata\anaconda3\lib\site-packages (from ipvthon>=6.1.0->ipvwidgets) (0.2.0)
Requirement already satisfied: colorama in c:\programdata\anaconda3\lib\site-packages (from ipython>=6.1.0->ipywidgets) (0.4.6)
Requirement already satisfied: parso<0.9.0,>=0.8.0 in c:\programdata\anaconda3\lib\site-packages (from jedi>=0.16->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.1.0->ipython>=6.
Requirement already satisfied: wcwidth in c:\programdata\anaconda3\lib\site-packages (from prompt-toolkit<3.1.0,>=3.0.41->ipython>=6.1.0->ipywidgets) (0.2.5)
Requirement already satisfied: executing in c:\programdata\anaconda3\lib\site-packages (from stack-data->ipython>=6.1.0->ipywidgets) (0.8.3)
Requirement already satisfied: asttokens in c:\programdata\anaconda3\lib\site-packages (from stack-data->ipython>=6.1.0->ipywidgets) (2.0.5)
Requirement already satisfied: pure-eval in c:\programdata\anaconda3\lib\site-packages (from stack-data->ipython>=6.1.0->ipywidgets) (0.2.2)
Requirement already satisfied: six in c:\programdata\anaconda3\lib\site-packages (from asttokens->stack-data->ipython>=6.1.0->ipywidgets) (1.16.0)
```

Importing data

```
In [20]: dataset path = 'archive'
```

Function to extract the first sequence of digits from the given filename string

```
In [23]: import re
         def the_number_in_the_string(filename):
             Extracts the first sequence of digits from the given filename string and returns it as an integer.
            If no digits are found, returns 0.
            # Search for the first occurrence of one or more digits in the filename
            match = re.search(r'(\d+)', filename)
             # If a match is found, return the matched number as an integer
            if match:
                 return int(match.group(0))
             # If no match is found, return 0
             else:
                 return 0
In [25]: labels dict = dict(
            img_path=[],
            xmin=[],
             xmax=[],
             ymin=[],
             ymax=[],
             img w=[],
             img_h=[]
In [27]: # Get the list of XML files from the annotations directory
         xml files = glob(f'{dataset path}/annotations/*.xml')
```

Processing each XML file

```
In [30]: for filename in sorted(xml files, key=the number in the string):
             # Parse the XML file
            info = xet.parse(filename)
            root = info.getroot()
             # Find the 'object' element in the XML and extract bounding box information
             member object = root.find('object')
             labels_info = member_object.find('bndbox')
             xmin = int(labels info.find('xmin').text)
            xmax = int(labels_info.find('xmax').text)
            ymin = int(labels_info.find('ymin').text)
            ymax = int(labels_info.find('ymax').text)
             # Get the image filename and construct the full path to the image
             img name = root.find('filename').text
             img_path = os.path.join(dataset_path, 'images', img_name)
             # Append the extracted information to the respective lists in the dictionary
             labels_dict['img_path'].append(img_path)
            labels dict['xmin'].append(xmin)
             labels_dict['xmax'].append(xmax)
             labels_dict['ymin'].append(ymin)
            labels_dict['ymax'].append(ymax)
             # Read the image to get its dimensions
             height, width, _ = cv2.imread(img_path).shape
             labels_dict['img_w'].append(width)
             labels_dict['img_h'].append(height)
```

```
# Convert the dictionary to a pandas DataFrame
alldata = pd.DataFrame(labels_dict)

# Display the DataFrame
alldata
```

30]:		img_path	xmin	xmax	ymin	ymax	img_w	img_h
	0	archive\images\Cars0.png	226	419	125	173	500	268
	1	archive\images\Cars1.png	134	262	128	160	400	248
	2	archive\images\Cars2.png	229	270	176	193	400	400
	3	archive\images\Cars3.png	142	261	128	157	400	225
	4	archive\images\Cars4.png	156	503	82	253	590	350
	428	archive\images\Cars428.png	142	258	128	157	400	225
	429	archive\images\Cars429.png	86	208	166	195	301	400
	430	archive\images\Cars430.png	38	116	159	197	400	225
	431	archive\images\Cars431.png	55	343	82	147	400	192
	432	archive\images\Cars432.png	95	196	258	284	467	300

433 rows × 7 columns

Train-test split

```
In [33]: from sklearn.model_selection import train_test_split

# Split the data into training and test sets

# Use 10% of the data for the test set
train, test = train_test_split(alldata, test_size=1/10, random_state=42)

# Split the training data further into training and validation sets

# Use 8/9 of the remaining data for the training set, resulting in an 80/10/10 split overall
train, val = train_test_split(train, train_size=8/9, random_state=42)

# Print the number of samples in each set
print(f'''

len(train) = (len(train))
len(val) = {len(val)}
len(test) = {len(val)}

1 en(train) = 345
len(val) = 44
len(test) = 44
```

Preparing data for model training

```
In [36]: # Remove the 'datasets' directory if it exists
    if os.path.exists('datasets'):
        shutil.rmtree('datasets')

In [38]: def make_split_folder_in_yolo_format(split_name, split_df, output_folder):
        """
        Creates a folder structure for a dataset split (train/val/test) in YOLO format.
```

```
Parameters:
             split name (str): The name of the split (e.g., 'train', 'val', 'test').
             split_df (pd.DataFrame): The DataFrame containing the data for the split.
             output folder (str): The root folder where the dataset will be created.
             The function will create 'labels' and 'images' subdirectories under '{output_folder}/cars_license_plate/{split_name}',
             and save the corresponding labels and images in YOLO format.
             labels path = os.path.join(output folder, 'cars license plate', split name, 'labels')
             images path = os.path.join(output folder, 'cars license plate', split name, 'images')
             # Create directories for labels and images
             os.makedirs(labels path, exist ok=True)
             os.makedirs(images path, exist ok=True)
             # Iterate over each row in the DataFrame
             for , row in split df.iterrows():
                 img name, img extension = os.path.splitext(os.path.basename(row['img path']))
                 # Calculate YOLO format bounding box coordinates
                 x_center = (row['xmin'] + row['xmax']) / 2 / row['img_w']
                 v center = (row['ymin'] + row['ymax']) / 2 / row['img h']
                 width = (row['xmax'] - row['xmin']) / row['img w']
                 height = (row['ymax'] - row['ymin']) / row['img h']
                 # Save the Label in YOLO format
                 label_path = os.path.join(labels_path, f'{img_name}.txt')
                 with open(label path, 'w') as file:
                     file.write(f"0 {x_center:.4f} {y_center:.4f} {width:.4f} {height:.4f} \\ \n")
                 # Copy the image to the images directory
                 shutil.copy(row['img_path'], os.path.join(images_path, img_name + img_extension))
             print(f"Created '{images_path}' and '{labels_path}'")
In [40]: # Create YOLO format folders for train, validation, and test splits
         make_split_folder_in_yolo_format("train", train, "datasets")
         make split folder in yolo format("val", val, "datasets")
         make split folder in yolo format("test", test, "datasets")
        Created 'datasets\cars license plate\train\images' and 'datasets\cars license plate\train\labels'
        Created 'datasets\cars license plate\val\images' and 'datasets\cars license plate\val\labels'
        Created 'datasets\cars license plate\test\images' and 'datasets\cars license plate\test\labels'
In [42]: # Directory paths
         image dir = 'cars license plate new/train/images'
         label_dir = 'cars_license_plate_new/train/labels'
In [44]: # Get the first image file
         image files = sorted(os.listdir(image dir))
         first_image_file = image_files[0]
         # Construct paths for the image and its corresponding label
         image path = os.path.join(image dir, first image file)
         label path = os.path.join(label dir, os.path.splitext(first image file)[0] + '.txt')
         # Load the image using OpenCV
         image = cv2.imread(image_path)
         # Convert the image from BGR (OpenCV default) to RGB (matplotlib default)
         image = cv2.cvtColor(image, cv2.COLOR BGR2RGB)
         # Read the label file to get bounding box information
         with open(label_path, 'r') as f:
             lines = f.readlines()
In [46]: # Plot the bounding box on the image
         for line in lines:
```

```
# Parse the label file line to extract bounding box information
    class_id, x_center, y_center, width, height = map(float, line.strip().split())
    img_height, img_width, _ = image.shape
    # Convert YOLO format to bounding box format
   x_center *= img_width
   y_center *= img_height
    width *= img_width
    height *= img_height
    # Calculate the top-left and bottom-right coordinates of the bounding box
    x1 = int(x_center - width / 2)
    y1 = int(y_center - height / 2)
    x2 = int(x_center + width / 2)
   y2 = int(y_center + height / 2)
    # Draw the bounding box on the image using a green rectangle
    cv2.rectangle(image, (x1, y1), (x2, y2), (0, 255, 0), 2)
# Display the image with bounding box using matplotlib
plt.imshow(image)
plt.axis('off') # Hide the axis
plt.show() # Display the image
```



```
In [48]: # Define the content of the datasets.yaml file
datasets_yaml = ''
path: cars_license_plate_new

train: train/images
val: val/images
test: test/images

# number of classes
nc: 1

# class names
names: ['license_plate']
'''

# Write the content to the datasets.yaml file
with open('datasets.yaml', 'w') as file:
    file.write(datasets_yaml)
```

Model Training and Evaluation

```
In [51]: from ultralytics import YOLO
```

```
model = YOLO('yolov8n.pt')
       Downloading\ https://github.com/ultralytics/assets/releases/download/v8.2.0/yolov8n.pt\ to\ 'yolov8n.pt'...
       100%| 6.23M/6.23M [00:03<00:00, 1.90MB/s]
In [53]: model.train(
            data="datasets.yaml", # Path to the dataset configuration file
            epochs=100,
                                  # Number of training epochs
            batch=16,
                                   # Batch size
            device='cpu',
                                   # Use CPU for training
            imgsz=320,
                                   # Image size (width and height) for training
            cache=True
                                   # Cache images for faster training
       New https://pypi.org/project/ultralytics/8.2.52 available Update with 'pip install -U ultralytics'
       Ultralytics YOLOv8.2.50 Python-3.12.3 torch-2.3.1+cpu CPU (AMD Ryzen 7 5800H with Radeon Graphics)
       engine\trainer: task=detect, mode=train, model=yolov8n.pt, data=datasets.yaml, epochs=100, time=None, patience=100, batch=16, imgsz=320, save=True, save period=-1, cache=True, device=cpu, workers=8, project=None, name=trai
       n19, exist ok=False, pretrained=True, optimizer=auto, verbose=True, seed=0, deterministic=True, single cls=False, rect=False, cos lr=False, close mosaic=10, resume=False, amp=True, fraction=1.0, profile=False, freeze=None,
       multi scale=False, overlap mask=True, mask ratio=4, dropout=0.0, val=True, split=val, save json=False, save hybrid=False, conf=None, iou=0.7, max det=300, half=False, dnn=False, plots=True, source=None, vid stride=1, strea
       m buffer=False, visualize=False, augment=False, agnostic nms=False, classes=None, retina masks=False, embed=None, show=False, save frames=False, save txt=False, save conf=False, save crop=False, show labels=True, show conf
       =True, show_boxes=True, line_width=None, format=torchscript, keras=False, optimize=False, int8=False, dynamic=False, simplify=False, opset=None, workspace=4, nms=False, 1r0=0.01, lrf=0.01, momentum=0.937, weight_decay=0.00
       05, warmup epochs=3.0, warmup momentum=0.8, warmup bias lr=0.1, box=7.5, cls=0.5, dfl=1.5, pose=12.0, kobj=1.0, label smoothing=0.0, nbs=64, hsv h=0.015, hsv s=0.7, hsv v=0.4, degrees=0.0, translate=0.1, scale=0.5, shear=
       0.0, perspective=0.0, flipud=0.0, fliplr=0.5, bgr=0.0, mosaic=1.0, mixup=0.0, copy paste=0.0, auto augment=randaugment, erasing=0.4, crop fraction=1.0, cfg=None, tracker=botsort.yaml, save dir=runs\detect\train19
       Overriding model.yaml nc=80 with nc=1
                          from n
                                    params module
                                                                                        arguments
         0
                           -1 1
                                       464 ultralytics.nn.modules.conv.Conv
                                                                                        [3, 16, 3, 2]
         1
                            -1 1
                                      4672 ultralytics.nn.modules.conv.Conv
                                                                                        [16, 32, 3, 2]
         2
                            -1 1
                                      7360 ultralytics.nn.modules.block.C2f
                                                                                        [32, 32, 1, True]
                                                                                        [32, 64, 3, 2]
                            -1 1
                                     18560 ultralytics.nn.modules.conv.Conv
         3
                                     49664 ultralytics.nn.modules.block.C2f
                            -1 2
                                                                                        [64, 64, 2, True]
                            -1 1
                                     73984 ultralytics.nn.modules.conv.Conv
                                                                                        [64, 128, 3, 2]
                            -1 2
                                    197632 ultralytics.nn.modules.block.C2f
                                                                                        [128, 128, 2, True]
                                    295424 ultralytics.nn.modules.conv.Conv
                           -1 1
                                                                                        [128, 256, 3, 2]
                           -1 1
                                    460288 ultralytics.nn.modules.block.C2f
                                                                                        [256, 256, 1, True]
         8
                                   164608 ultralytics.nn.modules.block.SPPF
         9
                           -1 1
                                                                                        [256, 256, 5]
        10
                           -1 1
                                         0 torch.nn.modules.upsampling.Upsample
                                                                                        [None, 2, 'nearest']
        11
                       [-1, 6] 1
                                         0 ultralytics.nn.modules.conv.Concat
                                                                                        [1]
                            -1 1 148224 ultralytics.nn.modules.block.C2f
                                                                                        [384, 128, 1]
        12
        13
                            -1 1
                                         0 torch.nn.modules.upsampling.Upsample
                                                                                        [None, 2, 'nearest']
        14
                       [-1, 4] 1
                                         0 ultralytics.nn.modules.conv.Concat
                                                                                        [1]
        15
                           -1 1
                                     37248 ultralytics.nn.modules.block.C2f
                                                                                        [192, 64, 1]
        16
                           -1 1
                                     36992 ultralytics.nn.modules.conv.Conv
                                                                                        [64, 64, 3, 2]
        17
                      [-1, 12] 1
                                         0 ultralvtics.nn.modules.conv.Concat
                                                                                        [1]
        18
                           -1 1
                                    123648 ultralytics.nn.modules.block.C2f
                                                                                        [192, 128, 1]
        19
                            -1 1
                                    147712 ultralytics.nn.modules.conv.Conv
                                                                                        [128, 128, 3, 2]
        20
                       [-1, 9] 1
                                         0 ultralytics.nn.modules.conv.Concat
        21
                           -1 1
                                    493056 ultralytics.nn.modules.block.C2f
                                                                                        [384, 256, 1]
                  [15, 18, 21] 1 751507 ultralytics.nn.modules.head.Detect
                                                                                        [1, [64, 128, 256]]
        22
       Model summary: 225 layers, 3011043 parameters, 3011027 gradients, 8.2 GFLOPs
       Transferred 319/355 items from pretrained weights
       TensorBoard: Start with 'tensorboard --logdir runs\detect\train19', view at http://localhost:6006/
       Freezing layer 'model.22.dfl.conv.weight'
       train: Scanning C:\Documents\Intel Unnati\7th Jul\cars_license_plate_new\train\labels.cache... 345 images, 0 backgrounds, 0 corrupt: 100% 345/345 [00:00<?, ?it/s]
       train: Caching images (0.1GB RAM): 100%| 345/345 [00:00<00:00, 853.42it/s]
       val: Scanning C:\Documents\Intel Unnati\7th Jul\cars license plate new\val\labels.cache... 44 images, 0 backgrounds, 0 corrupt: 100% 44/44 [00:00<?, ?it/s]
       val: Caching images (0.0GB RAM): 100%| 44/44 [00:00<00:00, 843.20it/s]
       Plotting labels to runs\detect\train19\labels.jpg...
       optimizer: 'optimizer=auto' found, ignoring 'lr0=0.01' and 'momentum=0.937' and determining best 'optimizer', 'lr0' and 'momentum' automatically...
       optimizer: AdamW(lr=0.002, momentum=0.9) with parameter groups 57 weight(decay=0.0), 64 weight(decay=0.0005), 63 bias(decay=0.0)
       TensorBoard: model graph visualization added
       Image sizes 320 train, 320 val
       Using 0 dataloader workers
       Logging results to runs\detect\train19
       Starting training for 100 epochs...
             Epoch GPU mem box loss cls loss dfl loss Instances
```

1/100	0G	1.594	2.786	1.257	17	320:	: 100% 22/22 [00:22<00:00, 1.04s/it]
	Class	-	Instances	Box(P	R		mAP50-95): 100%
	all	44	44	0.00352	0.932	0.598	0.27
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
2/100	0G	1.579	1.518	1.137	16	320:	: 100% 22/22 [00:21<00:00, 1.02it/s]
	Class		Instances	Box(P	R		mAP50-95): 100%
	all	44	44	0.00463	0.886	0.272	0.15
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
3/100	0G	1.536	1.401	1.154	15	320:	: 100% 100% 22/22 [00:21<00:00, 1.02it/s]
	Class		Instances	Box(P	R		mAP50-95): 100%
	all	44	44	0.677	0.295	0.317	0.149
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
4/100	0G	1.526	1.351	1.191	18		: 100% 22/22 [00:21<00:00, 1.03it/s]
	Class		Instances	Box(P	R		mAP50-95): 100%
	all	44	44	0.733	0.561	0.706	0.372
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
5/100	0G	1.534	1.288	1.187	18		: 100% 22/22 [00:21<00:00, 1.03it/s]
	Class	-	Instances	Box(P	R		mAP50-95): 100%
	all	44	44	0.679	0.568	0.629	
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
6/100	0G	1.532	1.272	1.147	21		: 100% 22/22 [00:21<00:00, 1.02it/s]
	Class	Images	Instances	Box(P	R		mAP50-95): 100%
	all	44	44	0.882	0.679	0.753	
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size	
7/100	0G	1.468	1.145	1.156	15		: 100% 100% 22/22 [00:21<00:00, 1.04it/s]
	Class		Instances	Box(P	R		
	all	44	44	0.703	0.295	0.357	
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
8/100	0G	1.498	1.134	1.17	23		: 100% 100% 22/22 [00:21<00:00, 1.03it/s]
	Class	Images 44	Instances 44	Box(P 0.488	0.591	0.512	mAP50-95): 100%
Farab							
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size	
9/100	0G	1.456	1.069	1.161	13 R		: 100% 22/22 [00:21400:00, 1.03it/s]
	Class all	1mages 44	Instances 44	Box(P 0.834	0.727	0.741	mAP50-95): 100% 2/2 [00:01<00:00, 1.95it/s] 0.402
Enoch						Size	
Epoch	GPU_mem	box_loss	cls_loss		Instances		
10/100	0G Class	1.404	1.026 Instances	1.12 Box(P	20 R		: 100% 100%
	all	44	44	0.832	0.705	0.79	
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size	
11/100	OF O_IIIEIII				24		
11/100	Class	1.371 Images	1.007 Instances	1.112 Box(P	24 R		: 100% 22/22 [00:21<00:00, 1.03it/s] mAP50-95): 100% 22/22 [00:00<00:00, 2.10it/s]
	all	44	44	0.812	0.882	0.881	
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size	
12/100	0G	1.33	0.9416	1.072	21		: 100% 22/22 [00:22<00:00, 1.02s/it]
12/100	Class	Images	Instances	Box(P	R		1.100% 1.
	all	44	44	0.892	0.795	0.89	· · · · · · · · · · · · · · · · · · ·
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
13/100	0G	1.311	0.8927	1.077	20		: 100% 22/22 [00:21<00:00, 1.01it/s]
,	Class		Instances	Box(P	R	mAP50	mAP50-95): 100% 2/2 [00:01<00:00, 1.93it/s]
	all	44	44	0.859	0.864	0.877	
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
14/100	_ 0G	1.339	0.9124	1.065	19		: 100% 22/22 [00:22<00:00, 1.00s/it]
,	Class		Instances	Box(P	R		mAP50-95): 100% 100% 2/2 [00:01:00:00
	all	44	44	0.824	0.886	0.871	
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
15/100	9G	1.322	0.9129	1.097	14	320:	: 100% 100% 22/22 [00:22<00:00, 1.01s/it]
	Class		Instances	Box(P	R		mAP50-95): 100%
	all	44	44	0.919	0.841	0.877	

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
16/100	0G	1.32	0.8965	1.11	15	320:	100% 22/22 [00:22<00:00, 1.04s/it]
	Class	_	Instances	Box(P	R 0.010		mAP50-95): 100% 2/2 [00:00<00:00, 2.01it/s]
Epoch	GPU_mem	box_loss	cls_loss	0.822	0.818 Instances	0.79 Size	0.408
17/100	0G	1.309	0.867	1.081	16		100% 22/22 [00:22<00:00, 1.04s/it]
17/100	Class		Instances	Box(P	R		00.1270.000, 1
	all	44	44	0.914	0.795	0.844	0.438
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
18/100	0G	1.309	0.8775	1.105	15		190% 22/22 [00:21:00:00, 1.00it/s]
	Class all	1mages 44	Instances 44	Box(P 0.846	R 0.871	0.866	mAP50-95): 100% 2/2 [00:00<00:00, 2.10it/s] 0.499
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size	
19/100	9G	1.314	0.839	1.096	15	320:	100% 22/22 [00:21<00:00, 1.03it/s]
	Class	_	Instances	Box(P	R		mAP50-95): 100% 2/2 [00:00<00:00, 2.13it/s]
Farab	all	44	44	0.916	0.886	0.883	0.491
Epoch 20/100	GPU_mem ØG	box_loss 1.239	cls_loss 0.8222	1.053	Instances 15	Size	100% 22/22 [00:21<00:00, 1.03it/s]
20/100	Class			Box(P	R		267.2 (00.2100.00, 1.031/s] wapso-95): 100% [27.2 (00.00.00, 2.09it/s]
	all	44	44	0.874	0.864	0.913	0.472
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
21/100	0G	1.193	0.7636	1.034	22 R		100% 22/22 [00:21<00:00, 1.03it/s]
	Class all	1mages 44	Instances 44	Box(P 0.948	0.834	0.892	mAP50-95): 100% 2/2 [00:00<00:00, 2.11it/s] 0.484
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size	
22/100	9G	1.184	0.7828	1.035	13	320:	100% 22/22 [00:21<00:00, 1.04it/s]
	Class	_	Instances	Box(P	R		mAP50-95): 100% 2/2 [00:00<00:00, 2.03it/s]
	all	44	44	0.848	0.909	0.89	0.46
Epoch 23/100	GPU_mem ØG	box_loss 1.159	cls_loss 0.7422	1.032	Instances 21	Size	100% 22/22 [00:21<00:00, 1.04it/s]
23/100	Class		Instances	Box(P	R		mAP50-95): 100% 2/2 [00:2100:00; 1:041t/s]
	all	44	44	0.872	0.841	0.884	0.485
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
24/100	0G	1.118	0.7352	1.023	21 R		100% 22/22 [00:21<00:00, 1.04it/s]
	Class all	44	Instances 44	Box(P 0.901	0.864	0.89	mAP50-95): 100% 2/2 [00:00<00:00, 2.06it/s] 0.459
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
25/100	0G	1.212	0.7647	1.035	15	320:	100%
	Class		Instances	Box(P	R		mAP50-95): 100% 2/2 [00:00<00:00, 2.10it/s]
Enoch	all	hov loss	cle loss	0.946	0.8	0.893	0.464
Epoch 26/100	GPU_mem ØG	box_loss 1.165	cls_loss 0.7393	1.026	Instances 20	Size	100%
20/100	Class		Instances	Box(P	R		mAP50-95): 100% 2/2 [00:01<00:00, 1.96it/s]
	all	44	44	0.946	0.792	0.875	0.477
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size	
27/100	0G	1.137	0.7245	1.024 Box (P	12 R		100%
	Class all	Images 44	Instances 44	Box(P 0.929	0.795	0.864	0.478
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size	
28/100	0G	1.126	0.7225	1.016	16		100% 22/22 [00:22<00:00, 1.02s/it]
	Class		Instances	Box(P	R		mAP50-95): 100% 2/2 [00:00<00:00, 2.07it/s]
Enoch	all GPU_mem	hov loss	cls_loss	0.901	0.828 Instances	0.887 Size	0.466
Epoch 29/100	OG_mem	1.121	0.6994	1.002	24		100% 22/22 [00:21<00:00, 1.02it/s]
25/ 100	Class		Instances	Box(P			mAP50-95): 100% 2/2 [00:00<00:00, 1:011/s]
	all	44	44	0.906	0.909	0.939	0.513
Epoch	GPU_mem		cls_loss	_	Instances	Size	
30/100	0G	1.093	0.6998	0.9954	16 P		100% 22/22 [00:21<00:00, 1.02it/s]
	Class	ımages	Instances	Box(P	R	mAP50	mAP50-95): 100% 2/2 [00:00<00:00, 2.09it/s]

	all	44	44	0.885	0.909	0.895	0.518
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size	
31/100	9G	1.108	0.6991	1.016	18		0: 100% 22/22 [00:21<00:00, 1.03it/s]
	Class		Instances	Box(P	R	mAP50	mAP50-95): 100% 2/2 [00:00<00:00, 2.10it/s]
	all	44	44	0.902	0.832	0.885	0.513
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
32/100	0G	1.094	0.6919	1.004	13		: 100% 22/22 [00:21<00:00, 1.01it/s]
	Class all	Images 44	Instances 44	Box(P 0.826	0.864	mAP50 0.885	· · · · · · · · · · · · · · · · · · ·
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size	
33/100	0G	1.079	0.686	0.9867	20		0: 100% 22/22 [00:22<00:00, 1.01s/it]
33/100	Class		Instances	Box(P	R		
	all	44	44	0.957	0.841	0.93	
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
34/100	0G	1.05	0.6576	0.9923	17	320:	0: 100% 22/22 [00:21<00:00, 1.03it/s]
	Class	Images	Instances	Box(P	R	mAP50	
	all	44	44	0.939	0.864	0.91	
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size	
35/100	0G Class	1.053 Images	0.6701 Instances	0.975 Box(P	16 R	320: mAP50	1: 100% 22/22 [00:21<00:00, 1.02it/s] 1: map50-95): 100% 22/22 [00:21<00:00, 1.02it/s]
	all	44	44	0.894	0.818	0.891	, , , , , , , , , , , , , , , , , , , ,
Epoch	GPU_mem	box_loss	cls_loss	dfl loss	Instances	Size	
36/100	9G	1.081	0.667	1.002	12	320:	0: 100% 22/22 [00:21<00:00, 1.03it/s]
	Class	Images	Instances	Box(P	R	mAP50	mAP50-95): 100% 2/2 [00:01<00:00, 1.96it/s]
	all	44	44	0.907	0.882	0.901	. 0.486
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size	
37/100	0G	1.092	0.6963	1.017	17		: 100% 22/22 [00:22<00:00, 1.00s/it]
	Class all	Images 44	Instances 44	Box(P 0.907	0.864	mAP50 0.907	, , , , , , , , , , , , , , , , , , , ,
Epoch	GPU_mem	box_loss	cls_loss			Size	
38/100	0G	1.092	0.6777	1.004	18		0: 100% 22/22 [00:23<00:00, 1.08s/it]
,	Class	Images	Instances	Box(P	R		
	all	44	44	0.965	0.886	0.919	0.48
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
39/100	0G	1.038	0.631	0.9707	16		: 100% 22/22 [00:22<00:00, 1.01s/it]
	Class	Images 44	Instances 44	Box(P 0.968	0.886	mAP50 0.913	· · · · · · · · · · · · · · · · · · ·
Enoch						Size	
Epoch 40/100	GPU_mem ØG	box_loss 1.043	cls_loss 0.6512	0.979	Instances 15		: 0: 100% 22/22 [00:21<00:00, 1.03it/s]
40/100	Class	Images	Instances	8.979 Box(P	R		
	all	44	44	0.942	0.841	0.92	
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
41/100	0G	1.052	0.6469	0.986	16		0: 100% 22/22 [00:22<00:00, 1.01s/it]
	Class	Images	Instances	Box(P	R	mAP50	
Ford	all	44	44	0.906	0.878	0.918	
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size	
42/100	0G Class	1.018 Images	0.6178 Instances	0.9888 Box(P	20 R		0: 100% 22/22 [00:21<00:00, 1.00it/s] 0 mAP50-95): 100% 2/2 [00:21<00:00, 2.01it/s]
	all	44	44	0.901	0.886	0.904	
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size	
43/100	9G	1.027	0.6354	1.001	14		0: 100% 22/22 [00:21<00:00, 1.01it/s]
	Class	Images	Instances	Box(P	R	mAP50	mAP50-95): 100% 2/2 [00:00<00:00, 2.11it/s]
	all	44	44	0.864	0.909	0.921	
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size	
44/100	0G	0.9997	0.6243	0.9782	17		1: 100% 22/22 [00:21<00:00, 1.02it/s]
	Class	Images 44	Instances 44	Box(P 0.979	R 0.841	mAP50 0.946	1 , [
Epoch					Instances	Size	
Epoch	GPU_mem	box_loss	cls_loss	uT1_1055	THEFAUCES	2126	

45/100	0G	1.018	0.6106	0.9723	13	320: 100% 22/22 [00:21<00:00, 1.02it/s]
	Class		Instances	Box(P	R	mAP50 mAP50-95): 100% 2/2 [00:00<00:00, 2.09it/s]
	all	44	44	0.865	0.909	0.937 0.501
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size
46/100	0G	1.021	0.6275	0.9809	21	320: 100% 22/22 [00:21<00:00, 1.01it/s]
	Class	Images 44	Instances	Box(P	R	mAP50 mAP50-95): 100%
	all		44	0.951	0.883	0.938
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size
47/100	0G	0.9959	0.6146	0.9574	12 R	320: 100% 2000 2000 2000 1.031t/s]
	Class	1mages 44	Instances 44	Box(P 0.951	0.882	mAP50 mAP50-95): 100% 2/2 [00:00<00:00, 2.11it/s] 0.926
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size
						320: 100% 22/22 [00:21<00:00, 1.03it/s]
48/100	0G Class	1.032 Images	0.6227 Instances	0.9625 Box(P	17 R	320: 100% (200
	all	44	44	0.846	0.932	0.937 0.527
Epoch	GPU_mem	box_loss	cls_loss	dfl loss	Instances	Size
49/100	0G	0.9399	0.5842	0.9562	22	320: 100% 22/22 [00:21<00:00, 1.04it/s]
.5, 205	Class	Images	Instances	Box(P	R	mAP50 mAP50.100% [27] [00:100:00; 10:10/3] [2/2 [00:00:00; 00:00; 00:00; 10:10/3]
	all	44	44	0.85	0.901	0.923 0.514
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
50/100	0G	0.9598	0.5801	0.9622	17	320: 100% 22/22 [00:21<00:00, 1.03it/s]
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100%
	all	44	44	0.882	0.848	0.901 0.503
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
51/100	0G	0.9702	0.5745	0.9626	15	320: 100% 22/22 [00:21<00:00, 1.03it/s]
	Class			Box(P	R	mAP50 mAP50-95): 100%
	all	44	44	0.884	0.868	0.924 0.498
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
52/100	0G	0.9914	0.5738	0.9571	16	320: 100% 2007 22/22 [00:21<00:00, 1.03it/s]
	Class all	Images 44	Instances 44	Box(P 0.88	0.886	mAP50 mAP50-95): 100% 2/2 [00:00<00:00, 2.09it/s] 0.923
Fnoch						
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size
53/100	0G Class	0.936 Tmages	0.5642 Instances	0.9431 Box(P	15 R	320: 100% 22/22 [00:21<00:00, 1.03it/s] mAP50 mAP50-95): 100% 22/22 [00:00<00:00, 2.10it/s]
	all	44	44	0.895	0.886	0.919 0.521
Epoch	GPU_mem	box_loss	cls_loss	dfl loss	Instances	Size
54/100	0G	0.9161	0.5534	0.9469	16	320: 100% 22/22 [00:21<00:00, 1.01it/s]
J .,	Class			Box(P	R	mAP50 mAP50-95): 100%
	all	44	44	0.842	0.886	0.921 0.531
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
55/100	0G	0.9298	0.5598	0.9424	16	320: 100% 22/22 [00:21<00:00, 1.03it/s]
	Class	Images	Instances	Box(P	R	mAP50 mAP50-95): 100%
	all	44	44	0.925	0.843	0.929 0.525
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size
56/100	0G	0.9411	0.5534	0.9417	19	320: 100% 22/22 [00:21<00:00, 1.03it/s]
	Class	Images	Instances	Box(P	R 000	mAP50 mAP50-95): 100%
	all	44	44	0.92	0.909	0.93 0.516
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size
57/100	0G	0.9141	0.5605	0.9548	23	320: 100% 2000 2000 2000 1.031t/s]
	Class all	ımages	Instances 44	Box(P 0.925	0.909	mAP50 mAP50-95): 100% 2/2 [00:00<00:00, 2.06it/s] 0.919 0.496
Epoch		hov loss	cls loss			Size
	GPU_mem		cls_loss		Instances	
58/100	0G Class	0.9359 Images	0.5466 Instances	0.9403 Box(P	20 R	320: 100% 22/22 [00:21<00:00, 1.01it/s] mAP50 mAP50-95): 100% 22/22 [00:01<00:00, 1.97it/s]
	all	44	44	0.88	0.841	0.918 0.533
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size
59/100	0G	0.9207	0.5741	0.9429	17	320: 100% 22/22 [00:21<00:00, 1.03it/s]
33, 200	Class		Instances	Box(P	R	mAP50 mAP50-95): 100%
	all	44	44	0.917	0.818	0.918 0.549

Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
60/100	0G	0.9311	0.5448	0.9368	11		100% 22/22 [00:21<00:00, 1.03it/s]
	Class	_	Instances	Box(P	R		mAP50-95): 100% 2/2 [00:00<00:00, 2.08it/s]
Epoch	all GPU_mem	box_loss	cls_loss	0.879	0.886 Instances	0.933 Size	0.533
61/100	0G	0.903	0.5398	0.9373	113 cances		100%
01/100	Class		Instances	Box(P	R		160% [160] [
	all	44	44	0.924	0.841	0.932	0.518
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
62/100	0G	0.838	0.5165	0.9353	16		1908
	Class all	1mages 44	Instances 44	Box(P 0.885	0.841	0.897	mAP50-95): 100% 2/2 [00:00<00:00, 2.11it/s]
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size	
63/100	9G	0.8803	0.5269	0.9325	19	320:	100% 22/22 [00:22<00:00, 1.03s/it]
	Class	_	Instances	Box(P	R		mAP50-95): 100% 2/2 [00:00<00:00, 2.11it/s]
Farab	all	44	44	0.918	0.909	0.936	0.513
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size	100% 100
64/100	0G Class	0.888 Images	0.5474 Instances	0.9382 Box(P	13 R		100%
	all	44	44	0.9	0.886	0.927	0.485
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
65/100	0G	0.8801	0.5419	0.9461	17		100% 100% 22/22 [00:21<00:00, 1.03it/s]
	Class all	Images 44	Instances 44	Box(P 0.958	0.864	mAP50 0.928	mAP50-95): 100%
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size	0.52
66/100	0G	0.8885	0.5272	0.9353	13		100% 22/22 [00:21<00:00, 1.03it/s]
33, 233	Class		Instances	Box(P	R		mAP50-95): 100% 100% 100% 2/2 [00:00<00:00, 2.11it/s]
	all	44	44	0.88	0.909	0.921	0.515
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size	
67/100	0G Class	0.8464 Tmages	0.5289 Instances	0.9348 Box(P	12 R		100%
	all	44	44	0.88	0.909	0.936	0.526
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
68/100	0G	0.8672	0.5234	0.939	18		100%
	Class all	Images 44	Instances 44	Box(P 0.907	0.888	mAP50 0.922	mAP50-95): 100% 2/2 [00:00<00:00, 2.12it/s] 0.509
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size	0.303
69/100	0G	0.8536	0.5172	0.9371	16		100% 22/22 [00:21<00:00, 1.04it/s]
03, 200	Class	Images	Instances	Box(P	R		mAP50-95): 100% 100% 120 120 120 120 120 120 120 120 120 120
	all	44	44	0.888	0.909	0.924	0.505
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size	
70/100	0G Class	0.8811 Images	0.5273 Instances	0.9352 Box(P	14 R		100%
	all	44	44	0.886	0.909	0.935	0.526
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size	
71/100	0G	0.8502	0.5132	0.9182	18		100% 22/22 [00:21<00:00, 1.04it/s]
	Class		Instances	Box(P	R 006		mAP50-95): 100% 2/2 [00:00<00:00, 2.13it/s]
Enoch	all GDII mem	box_loss	cle loss	0.898	0.886	0.934 Size	0.537
Epoch 72/100	GPU_mem 0G	0.8767	cls_loss 0.5215	0.9255	Instances 14		100% 22/22 [00:21<00:00, 1.03it/s]
72/100	Class		Instances	Box(P	14 R		mAP50-95): 100% 2/22 [00:21:00:00; 1:051t/s]
	all	44	44	0.909	0.864	0.934	0.52
Epoch	GPU_mem		cls_loss		Instances	Size	
73/100	0G	0.856	0.5127	0.9348	15		100%
	Class all	Images 44	Instances 44	Box(P 0.869	0.903	0.921	mAP50-95): 100% 2/2 [00:00<00:00, 2.121t/s] 0.526
Epoch	GPU_mem		cls_loss		Instances	Size	
74/100	9G	0.8285	0.4919	0.9155	14	320:	100% 22/22 [00:21<00:00, 1.03it/s]
	Class	Images	Instances	Box(P	R	mAP50	mAP50-95): 100% 2/2 [00:00<00:00, 2.01it/s]

	all	44	44	0.888	0.903	0.936	0.526	
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size		
75/100	0G	0.8196	0.5036	0.9209	19			22/22 [00:21<00:00, 1.03it/s]
	Class all	Images 44	Instances 44	Box(P 0.908	0.901	mAP50 0.941	mAP50-95): 0.541	100% 2/2 [00:00<00:00, 2.09it/s]
Enoch		box_loss	cls_loss		Instances	Size	0.541	
76/100	GPU_mem 0G	0.8199	0.4919	0.9132	11stances		100%	22/22 [00:21<00:00, 1.03it/s]
70/100	Class		Instances	Box(P	R			180% 2/2 [00:100<00:00, 1:00t/s]
	all	44	44	0.887	0.864	0.935	0.534	
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size		
77/100	0G	0.7854	0.4747	0.9139	22			22/22 [00:21<00:00, 1.02it/s]
	Class all	1mages 44	Instances 44	Box(P 0.947	0.864	mAP50 0.936	0.532	100% 2/2 [00:00<00:00, 2.13it/s]
Epoch	GPU mem	box_loss	cls_loss		Instances	Size		
78/100	0G	0.8061	0.4751	0.918	16		100%	22/22 [00:21<00:00, 1.03it/s]
	Class	Images	Instances	Box(P	R	mAP50	mAP50-95):	100% 2/2 [06:00<00:00, 2.12it/s]
	all	44	44	0.95	0.859	0.938	0.534	
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size		
79/100	0G Class	0.7829 Images	0.4806 Instances	0.9164 Box(P	17 R	320: mAP50	100%	22/22 [00:21<00:00, 1.03it/s]
	all	1mages 44	44	0.899	0.909	0.925	0.538	100% 2/2 [00:00<00:00, 2.03it/s]
Epoch	GPU_mem	box_loss	cls_loss			Size		
80/100	0G	0.8195	0.4784	0.91	16		100%	22/22 [00:21<00:00, 1.03it/s]
	Class	Images	Instances	Box(P	R	mAP50	mAP50-95):	100% 2/2 [00:00<00:00, 2.12it/s]
	all	44	44	0.917	0.886	0.943	0.533	
Epoch	GPU_mem	box_loss	cls_loss		Instances	Size		
81/100	0G	0.7762	0.4836 Instances	0.9117 Box(P	17 R	320: mAP50		22/22 [00:21<00:00, 1.02it/s] 100% 2/2 [00:00<00:00, 2.01it/s]
	Class all	Images 44	44	0.951	0.881	0.945	0.548	100.
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size		
82/100	0G	0.7922	0.4702	0.9113	12	320:	100%	22/22 [00:21<00:00, 1.03it/s]
	Class	Images	Instances	Box(P	R	mAP50		190%
- 1	all	44	44	0.928	0.875	0.945	0.547	
Epoch	GPU_mem	box_loss	cls_loss		Instances 21	Size	100%	11111 22/22 500,21/00.00 1 02/4/6]
83/100	0G Class	0.7643 Images	0.4657 Instances	0.8988 Box(P	21 R		100% MAP50-95):	22/22 [00:21<00:00, 1.03it/s] 100% 2/2 [00:00<00:00, 2.05it/s]
	all	44	44	0.927	0.872	0.934	0.543	
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size		
84/100	0G	0.7421	0.4407	0.9026	19		100%	
	Class	Images	Instances	Box(P	R 0.97			100% 2/2 [00:00<00:00, 2.11it/s]
Enach	all GDII mem	hov loss	44 cls loss	0.927	0.87	0.942 Size	0.54	
Epoch 85/100	GPU_mem 0G	0.7862	cls_loss 0.4687	0.9058	Instances 14		100%	22/22 [00:21<00:00, 1.03it/s]
85/100	Class	Images	Instances	Box(P	14 R			1000 1000 100
	all	44	44	0.951	0.885	0.925	0.531	
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size		
86/100	0G	0.7471	0.4645	0.9049	18			22/22 [00:21<00:00, 1.02it/s]
	Class		Instances	Box(P 0.951	R 0.876	mAP50 0.929	mAP50-95): 0.539	100% 2/2 [00:00<00:00, 2.07it/s]
Enoch	all	44 hov loss	616 1066		0.876		0.559	
Epoch 87/100	GPU_mem 0G	box_loss 0.7592	cls_loss 0.4708	0.9141	Instances 16	Size	100%	22/22 [00:21<00:00, 1.03it/s]
87/100	Class			Box(P	R			1000 1000 2/22 [00:21:00:00, 1:0511/5]
	all	44	44	0.935	0.864	0.941	0.538	
Epoch	GPU_mem	box_loss	cls_loss	dfl_loss	Instances	Size		
88/100	0G	0.7433	0.4475	0.9071	16		100%	22/22 [00:21<00:00, 1.02it/s]
	Class all	Images 44	Instances 44	Box(P 0.948	0.864	mAP50 0.943	mAP50-95): 0.543	100% 2/2 [00:01<00:00, 1.98it/s]
Epoch	GPU_mem		cls_loss	dfl loss		Size	0.343	
Epocii	ar o_illeill	POY_T022	CT2_T022	011_1022	TIIS COLLCES	2176		

```
320: 100%| 22/22 [00:21<00:00, 1.03it/s]
    89/100
                  ag
                        0.7288
                                  0.4428
                                             0.894
                                                         19
                                             Box(P
                                                          R
                                                                 mAP50 mAP50-95): 100%| 2/2 [00:00<00:00, 2.09it/s]
               Class
                        Images Instances
                                             0.947
                                                       0.864
     Epoch
             GPU mem
                                cls loss
                                          dfl loss Instances
                                                                 Size
                      box loss
    90/100
                  0G
                        0.7407
                                  0.4416
                                            0.8943
                                                         17
                                                                  320: 100% 22/22 [00:21<00:00, 1.03it/s]
                                                                       mAP50-95): 100%| 2/2 [00:00<00:00, 2.08it/s]
               Class
                        Images Instances
                all
                                      44
                                             0.945
                                                       0.864
                                                                 0.943
Closing dataloader mosaic
     Epoch
             GPU mem
                     box_loss cls_loss
                                          dfl loss Instances
                                                                 Size
                  ag
                                            0 9999
                                                          q
                                                                  320: 100%| 22/22 [00:22<00:00, 1.01s/it]
    91/100
                        0 9923
                                  0.5605
                        Images Instances
                                                                 mAP50
                                                                       mAP50-95): 100%| 2/2 [00:01<00:00, 1.78it/s]
               Class
                                             Box (P
                                                          R
                a11
                                      44
                                             0.952
                                                      0.841
                                                                 0.933
             GPU mem
                                          dfl loss Instances
                                                                 Size
     Epoch
                      box loss
                                cls loss
    92/100
                  0G
                        0.9761
                                  0.5226
                                             0.989
                                                          9
                                                                  320: 100%
                                                                                  22/22 [00:23<00:00, 1.06s/it]
               Class
                        Images Instances
                                             Box(P
                                                          R
                                                                       mAP50-95): 100%| 2/2 [00:01<00:00, 1.97it/s]
                 all
                                      44
                                                       0.855
                                                                 0.933
                                          dfl loss Instances
     Epoch
             GPU mem
                      box loss
                                cls loss
    93/100
                  0G
                        0.9603
                                  0.5098
                                            0.9773
                                                                   320: 100% 22/22 [00:21<00:00, 1.04it/s]
                                                                       mAP50-95): 100%
                                                                                              2/2 [00:00<00:00, 2.10it/s]
               Class
                        Images Instances
                                             Box(P
                                                                 mAP50
                 all
                                      44
                                             0.967
                                                      0.864
                                                                 0.944
                                                                           0.556
                                          dfl loss Instances
     Epoch
             GPU mem
                      box_loss
                                cls_loss
                                                                 Size
                                                                  320: 100%| 22/22 [00:21<00:00, 1.04it/s]
                 0G
                        0.9583
                                            0.9641
    94/100
                                  0.5085
                                                                       mAP50-95): 100%| 2/2 [00:00<00:00, 2.11it/s]
                        Images Instances
                                                                 mAP50
               Class
                                             Box(P
                 all
                                             0.956
                                                      0.841
                                                                 0.943
             GPU mem
                                          dfl loss Instances
                                                                 Size
     Enoch
                      box loss
                                cls_loss
    95/100
                 0G
                        0.9543
                                  0.4853
                                            0.9829
                                                                  320: 100%| 22/22 [00:21<00:00, 1.03it/s]
                                                                       mAP50-95): 100%| 2/2 [00:00<00:00, 2.09it/s]
                                             Box(P
               Class
                        Images Instances
                all
                                             0.973
                                                       0.822
                                                                 0.939
             GPU mem
                                          dfl loss Instances
     Epoch
                      box loss cls loss
                  0G
                        0.9593
                                  0.4987
                                            0.9799
                                                                   320: 100%| 22/22 [00:21<00:00, 1.03it/s]
    96/100
                        Images Instances
                                             Box(P
                                                                 mAP50
                                                                       mAP50-95): 100%| 2/2 [00:00<00:00, 2.06it/s]
               Class
                all
                           44
                                      44
                                             0.949
                                                      0.838
                                                                 0.937
                                                                          0.548
     Epoch
             GPU mem
                      box loss
                                cls loss
                                          dfl loss Instances
                                                                 Size
    97/100
                  0G
                        0.9177
                                  0.4805
                                            0.9647
                                                          9
                                                                  320: 100% 22/22 [00:21<00:00, 1.03it/s]
                                                                 mAP50
               Class
                        Images Instances
                                             Box (P
                                                                       mAP50-95): 100%| 2/2 [00:00<00:00, 2.02it/s]
                all
                           44
                                     44
                                                      0.864
                                                                 0.934
                                                                          0.547
                                             0.921
                                          dfl_loss Instances
             GPU_mem
                      box loss
                               cls_loss
                                                                 Size
     Epoch
    98/100
                 0G
                        0.9341
                                  0.4862
                                            0.9712
                                                          9
                                                                  320: 100%
                                                                                  22/22 [00:21<00:00, 1.05it/s]
               Class
                        Images Instances
                                             Box(P
                                                          R
                                                                 mAP50
                                                                       mAP50-95): 100%| 2/2 [00:01<00:00, 1.92it/s]
                all
                                             0.913
                                                       0.841
                                                                 0.932
     Epoch
             GPU mem
                      box loss
                                cls loss
                                          dfl loss
                                                   Instances
                                                                 Size
    99/100
                 0G
                        0.9248
                                  0.4716
                                            0.9649
                                                          9
                                                                  320: 100%
                                                                                 22/22 [00:20<00:00, 1.05it/s]
               Class
                                                                 mAP50
                                                                       mAP50-95): 100%| 2/2 [00:00<00:00, 2.03it/s]
                        Images Instances
                                             Box(P
                 a11
                                                       0.863
                                                                 0.932
                                              0.95
     Epoch
             GPU_mem
                                cls_loss
                                          dfl loss
                                                   Instances
                                                                 Size
                      box_loss
                                                                  320: 100%| 22/22 [00:21<00:00, 1.03it/s]
   100/100
                  0G
                        0.9297
                                  0.4793
                                            0.9668
                                                                 mAP50 mAP50-95): 100%
               Class
                        Images Instances
                                             Box(P
                                                          R
                                                                                              2/2 [00:00<00:00, 2.11it/s]
                 a11
                                             0.948
                                                      0.864
                                                                 0.931
                                                                            9.54
100 epochs completed in 0.645 hours.
Optimizer stripped from runs\detect\train19\weights\last.pt, 6.2MB
Optimizer stripped from runs\detect\train19\weights\best.pt, 6.2MB
Validating runs\detect\train19\weights\best.pt...
Ultralytics YOLOv8.2.50 Python-3.12.3 torch-2.3.1+cpu CPU (AMD Ryzen 7 5800H with Radeon Graphics)
Model summary (fused): 168 layers, 3005843 parameters, 0 gradients, 8.1 GFLOPs
               Class
                       Images Instances
                                             Box(P
                                                          R
                                                                mAP50 mAP50-95): 100% 2/2 [00:00<00:00, 2.31it/s]
                           44
                                     44
                                            0.968
                                                      0.864
                                                                0.944
                                                                          0.556
Speed: 0.6ms preprocess, 16.9ms inference, 0.0ms loss, 0.2ms postprocess per image
Results saved to runs\detect\train19
```

Out[53]: ultralytics.utils.metrics.DetMetrics object with attributes:

ap class index: array([0]) box: ultralytics.utils.metrics.Metric object confusion matrix: <ultralytics.utils.metrics.ConfusionMatrix object at 0x000002CE5D3F2CC0> curves: ['Precision-Recall(B)', 'F1-Confidence(B)', 'Precision-Confidence(B)', 'Recall-Confidence(B)'] 0.009009, 0.01001, curves results: [[array([0, 0.001001, 0.002002, 0.003003, 0.004004, 0.005005, 0.006006. 0.007007, 0.008008. 0.011011, 0.012012, 0.013013, 0.014014. 0.016016. 0.017017, 0.018018, 0.019019, 0.02002. 0.021021, 0.022022. 0.023023. 0 024024 0.025025, 0.026026, 0.027027, 0.028028, 0.029029. 0 03003 0.031031, 0 032032 0.033033. 0 034034 0 035035 0 036036 0.037037. 0 038038 0 039039 0. 04004, 0.041041, 0.042042, 0.043043, 0.044044, 0.045045, 0.046046, 0.047047, 0.048048. 0.049049. 0.05005. 0.051051. 0.052052. 0.053053. 0.054054. 0.055055. 0.056056. 0.057057. 0.058058. 0.059059. 0.06006. 0.061061. 0.062062. 0.063063. 0.0 0.066066. 0.067067. 0.068068. 0.069069. 0.07007. 0.071071. 64064, 0.065065. 0.072072 0.073073, 0.074074, 0.075075, 0.076076, 0.077077, 0.078078, 0.079079. 0.08008, 0.081081, 0.082082, 0.083083, 0.084084, 0.085085, 0.086086, 0.087087, 0.0 88088 0.089089, 0.09009, 0.091091, 0.092092, 0.093093, 0.094094, 0.095095 0.098098, 0.096096, 0.097097, 0.099099, 0.1001, 0.1011, 0.1021 0.1031, 0.1041, 0.10511, 0.10611, 0.10711, 0.10811, 0.10911, 0.11011, 0.11111, 0. 0.11812, 11211, 0.11311, 0.11411, 0.11512, 0.11612, 0.11712, 0.11912, 0.12012. 0.12112, 0.12212, 0.12513. 0.12713. 0.12813. 0.12913. 0.13013. 0.13113. 0.13213. 0.13313. 0.13413. 0.13514. 0.12312. 0.12412 0.12613 α. 13614, 0.13714, 0.13814, 0.13914, 0.14014, 0.14114, 0.14214, 0.14314 0.14414, 0.14615, 0.14815, 0.14915, 0.15115, 0.15215, 0.15315, 0.15415, 0.15516, 0.15616, 0.15716, 0.15916, 0.14515, 0.14715. 0.15015 0.15816. 0. 0.16116, 16016 0.16216, 0.16316, 0.16416. 0.16517. 0.16617. 0.16717 0.16817, 0.16917, 0.17017, 0.17117, 0.17217, 0.17317, 0.17417 0.17518, 0.17618, 0.17718, 0.17818, 0.17918, 0.18018, 0.18118, 0.18218, 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78478,	0.78579, 0.79279,	0.78679, 0.79379,	0.78779, 0.79479,	0.78879, 0.7958,	0.78979, 0.7968,	0.79079, 0.7978,	0.79179, 0.7988,	0.7998,	0.8008,	0.8018,	0.8028,	0.8038,	0.8048,	0.80581,	0.80681,	0.80781,	0.
80881,	0.80981, 0.81682,	0.81081, 0.81782,	0.81181, 0.81882,	0.81281, 0.81982,	0.81381, 0.82082,	0.81481, 0.82182,	0.81582, 0.82282,	0.82382,	0.82482,	0.82583,	0.82683,	0.82783,	0.82883,	0.82983,	0.83083,	0.83183,	0.
83283,	0.83383, 0.84084,	0.83483, 0.84184,	0.83584, 0.84284,	0.83684, 0.84384,	0.83784, 0.84484,	0.83884, 0.84585,	0.83984, 0.84685,	0.84785,	0.84885,	0.84985,	0.85085,	0.85185,	0.85285,	0.85385,	0.85485,	0.85586,	0.
85686,	0.85786, 0.86486,	0.85886, 0.86587,	0.85986, 0.86687,	0.86086, 0.86787,	0.86186, 0.86887,	0.86286, 0.86987,	0.86386, 0.87087,	0.87187,	0.87287,	0.87387,	0.87487,	0.87588,	0.87688,	0.87788,	0.87888,	0.87988,	0.
88088,	0.88188,	0.88288,	0.88388,	0.88488,	0.88589,	0.88689,	0.88789,		-						-		0.
0.9049,	0.88889, 0.90591,	0.88989, 0.90691,	0.89089, 0.90791,	0.89189, 0.90891,	0.89289, 0.90991,	0.89389, 0.91091,	0.89489, 0.91191,	0.8959,	0.8969,	0.8979,	0.8989,	0.8999,	0.9009,	0.9019,	0.9029,	0.9039,	
92893,	0.91291, 0.92993,	0.91391, 0.93093,	0.91491, 0.93193,	0.91592, 0.93293,	0.91692, 0.93393,	0.91792, 0.93493,	0.91892, 0.93594,	0.91992,	0.92092,	0.92192,	0.92292,	0.92392,	0.92492,	0.92593,	0.92693,	0.92793,	0.
95295,	0.93694, 0.95395,	0.93794, 0.95495,	0.93894, 0.95596,	0.93994, 0.95696,	0.94094, 0.95796,	0.94194, 0.95896,	0.94294, 0.95996,	0.94394,	0.94494,	0.94595,	0.94695,	0.94795,	0.94895,	0.94995,	0.95095,	0.95195,	0.
97698,	0.96096, 0.97798,	0.96196, 0.97898,	0.96296, 0.97998,	0.96396, 0.98098,	0.96496, 0.98198,	0.96597, 0.98298,	0.96697, 0.98398,	0.96797,	0.96897,	0.96997,	0.97097,	0.97197,	0.97297,	0.97397,	0.97497,	0.97598,	0.
37030,	0.98498,	0.98599,	0.98699,	0.98799,	0.98899,	0.98999,	0.99099,	0.99199,	0.99299,	0.99399,	0.99499,	0.996,	0.997,	0.998,	0.999,	1]),	arra
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0.88636,	0.88636, 0.88636,	0.88636, 0.88636,	0.88636, 0.88636,	0.88636, 0.88636,	0.88636, 0.88636,	0.88636, 0.88636,	0.88636,	0.88636,	0.88636,	0.88636,	0.88636,	0.88636,	0.86957,	0.86957,	0.86957,	0.86957	
0.86957,	0.86957,	0.86957,	0.86957,	0.86957,	0.86957,	0.86957,	•			-			-		-		
0.82,	0.86957, 0.82,	0.86957, 0.82,	0.86957, 0.82,	0.86957, 0.82,	0.86957, 0.82,	0.86957, 0.82,	0.86957,	0.86957,	0.86957,	0.86957,	0.86957,	0.86957,	0.82,	0.82,	0.82,	0.82	,
0.71186,	0.82, 0.71186,	0.82,	0.82,	0.82,	0.82, 0.71186,	0.82,	0.82,	0.82,	0.82,	0.82,	0.82,	0.71186,	0.71186,	0.71186,	0.71186,	0.71186	,
0.71100,	0.71186,	0.71186, 0.71186,	0.71186, 0.71186,	0.71186, 0.71186,	0.71186,	0.71186, 0.71186,	0.71186,	0.71186,	0.71186,	0.71186,	0.71186,	0.27027,	0.26426,	0.25826,	0.25225,	0.24625	,
0.24024,	0.23423, 0.1982,	0.22823, 0.19219,	0.22222, 0.18619,	0.21622, 0.18018,	0.21021, 0.17417,	0.2042, 0.16817,	0.16216,	0.15616,	0.15015,	0.14414,	0.13814,	0.13213,	0.12613,	0.12012,	0.11411,	0.10811	
0.1021,	0.096096,	0.09009,	0.084084,	0.078078,	0.072072,	0.066066,	-			-	-		-		-		
02, 0	0.06006, .003003, 0	0.054054, 0.004004, 0	0.048048, .005005, 0	0.042042, 0.006006, 0	0.036036, .007007, 0	0.03003, .008008, 0.	0.024024, .009009,	0.018018, 0.01001,	0.012012, 0.011011, 0	0.006006, .012012, 0			'Precision'], 0.015015, 0				0.0020 0.0190
				.023023,	,	,	,	,		, .		,			,	,	
04004,	0.024024, 0.041041,	0.025025, 0.042042,	0.026026, 0.043043,	0.027027, 0.044044,	0.028028, 0.045045,	0.029029, 0.046046,	0.03003, 0.047047,	0.031031,	0.032032,	0.033033,	0.034034,	0.035035,	0.036036,	0.037037,	0.038038,	0.039039,	0.
04004,	0.048048,	0.049049,	0.05005,	0.051051,	0.052052,	0.053053,	0.054054,	0.055055,	0.056056,	0.057057,	0.058058,	0.059059,	0.06006,	0.061061,	0.062062,	0.063063,	0.0
64064,	0.065065,	0.066066,	0.067067,	0.068068,	0.069069,	0.07007,	0.071071,										0.0
88088,	0.072072, 0.089089,	0.073073, 0.09009,	0.074074,	0 075075	0.076076			0.070070	0.00000			0.002002	0.004004	0.005005	0.000000	0 007007	0.0
,	,			0.075075, 0.092092.	0.076076, 0.093093.	0.077077,	0.078078,	0.079079,	0.08008,	0.081081,	0.082082,	0.083083,	0.084084,	0.085085,	0.086086,	0.087087,	
	0.096096,	0.097097,	0.091091, 0.098098,	0.075075, 0.092092, 0.099099,	0.076076, 0.093093, 0.1001,			0.079079, 0.1031,	0.08008, 0.1041,			0.083083, 0.10711,	0.084084, 0.10811,	0.085085, 0.10911,	0.086086, 0.11011,	0.087087, 0.11111,	0.
11211,	0.11311,	0.097097, 0.11411,	0.091091, 0.098098, 0.11512,	0.092092, 0.099099, 0.11612,	0.093093, 0.1001, 0.11712,	0.077077, 0.094094, 0.1011, 0.11812,	0.078078, 0.095095, 0.1021, 0.11912,	0.1031,	0.1041,	0.081081, 0.10511,	0.082082, 0.10611,	0.10711,	0.10811,	0.10911,	0.11011,	0.11111,	
•	0.11311, 0.12012,	0.097097, 0.11411, 0.12112,	0.091091, 0.098098, 0.11512, 0.12212,	0.092092, 0.099099, 0.11612, 0.12312,	0.093093, 0.1001, 0.11712, 0.12412,	0.077077, 0.094094, 0.1011, 0.11812, 0.12513,	0.078078, 0.095095, 0.1021, 0.11912, 0.12613,			0.081081,	0.082082,			-	-		0. 0.
13614,	0.11311, 0.12012, 0.13714,	0.097097, 0.11411, 0.12112, 0.13814,	0.091091, 0.098098, 0.11512, 0.12212, 0.13914,	0.092092, 0.099099, 0.11612, 0.12312, 0.14014,	0.093093, 0.1001, 0.11712, 0.12412, 0.14114,	0.077077, 0.094094, 0.1011, 0.11812, 0.12513, 0.14214,	0.078078, 0.095095, 0.1021, 0.11912, 0.12613, 0.14314,	0.1031, 0.12713,	0.1041, 0.12813,	0.081081, 0.10511, 0.12913,	0.082082, 0.10611, 0.13013,	0.10711, 0.13113,	0.10811,	0.10911, 0.13313,	0.11011, 0.13413,	0.11111, 0.13514,	0.
•	0.11311, 0.12012,	0.097097, 0.11411, 0.12112,	0.091091, 0.098098, 0.11512, 0.12212,	0.092092, 0.099099, 0.11612, 0.12312,	0.093093, 0.1001, 0.11712, 0.12412,	0.077077, 0.094094, 0.1011, 0.11812, 0.12513,	0.078078, 0.095095, 0.1021, 0.11912, 0.12613,	0.1031,	0.1041,	0.081081, 0.10511,	0.082082, 0.10611,	0.10711,	0.10811,	0.10911,	0.11011,	0.11111,	
13614,	0.11311, 0.12012, 0.13714, 0.14414,	0.097097, 0.11411, 0.12112, 0.13814, 0.14515,	0.091091, 0.098098, 0.11512, 0.12212, 0.13914, 0.14615,	0.092092, 0.099099, 0.11612, 0.12312, 0.14014, 0.14715,	0.093093, 0.1001, 0.11712, 0.12412, 0.14114, 0.14815,	0.077077, 0.094094, 0.1011, 0.11812, 0.12513, 0.14214, 0.14915,	0.078078, 0.095095, 0.1021, 0.11912, 0.12613, 0.14314, 0.15015,	0.1031, 0.12713,	0.1041, 0.12813,	0.081081, 0.10511, 0.12913,	0.082082, 0.10611, 0.13013,	0.10711, 0.13113,	0.10811,	0.10911, 0.13313,	0.11011, 0.13413,	0.11111, 0.13514,	0.
13614,	0.11311, 0.12012, 0.13714, 0.14414, 0.16116, 0.16817, 0.18519,	0.097097, 0.11411, 0.12112, 0.13814, 0.14515, 0.16216, 0.16917, 0.18619,	0.091091, 0.098098, 0.11512, 0.12212, 0.13914, 0.14615, 0.16316, 0.17017, 0.18719,	0.092092, 0.099099, 0.11612, 0.12312, 0.14014, 0.14715, 0.16416, 0.17117, 0.18819,	0.093093, 0.1001, 0.11712, 0.12412, 0.14114, 0.14815, 0.16517, 0.17217, 0.18919,	0.077077, 0.094094, 0.1011, 0.11812, 0.12513, 0.14214, 0.14915, 0.16617, 0.17317, 0.19019,	0.078078, 0.095095, 0.1021, 0.11912, 0.12613, 0.14314, 0.15015, 0.16717, 0.17417, 0.19119,	0.1031, 0.12713, 0.15115, 0.17518,	0.1041, 0.12813, 0.15215, 0.17618,	0.081081, 0.10511, 0.12913, 0.15315, 0.17718,	0.082082, 0.10611, 0.13013, 0.15415, 0.17818,	0.10711, 0.13113, 0.15516, 0.17918,	0.10811, 0.13213, 0.15616, 0.18018,	0.10911, 0.13313, 0.15716, 0.18118,	0.11011, 0.13413, 0.15816, 0.18218,	0.11111, 0.13514, 0.15916, 0.18318,	0.0.0.
13614, 16016, 18418,	0.11311, 0.12012, 0.13714, 0.14414, 0.16116, 0.16817, 0.18519, 0.19219,	0.097097, 0.11411, 0.12112, 0.13814, 0.14515, 0.16216, 0.16917, 0.18619, 0.19319,	0.091091, 0.098098, 0.11512, 0.12212, 0.13914, 0.14615, 0.16316, 0.17017, 0.18719, 0.19419,	0.092092, 0.099099, 0.11612, 0.12312, 0.14014, 0.14715, 0.16416, 0.17117, 0.18819, 0.1952,	0.093093, 0.1001, 0.11712, 0.12412, 0.14114, 0.14815, 0.16517, 0.17217, 0.18919, 0.1962,	0.077077, 0.094094, 0.1011, 0.11812, 0.12513, 0.14214, 0.14915, 0.16617, 0.17317, 0.19019, 0.1972,	0.078078, 0.095095, 0.1021, 0.11912, 0.12613, 0.14314, 0.15015, 0.16717, 0.17417, 0.19119, 0.1982,	0.1031, 0.12713, 0.15115,	0.1041, 0.12813, 0.15215,	0.081081, 0.10511, 0.12913, 0.15315,	0.082082, 0.10611, 0.13013, 0.15415,	0.10711, 0.13113, 0.15516,	0.10811, 0.13213, 0.15616,	0.10911, 0.13313, 0.15716,	0.11011, 0.13413, 0.15816,	0.11111, 0.13514, 0.15916,	0. 0.
13614, 16016,	0.11311, 0.12012, 0.13714, 0.14414, 0.16116, 0.16817, 0.18819, 0.19219, 0.20921,	0.097097, 0.11411, 0.12112, 0.13814, 0.14515, 0.16216, 0.16917, 0.18619, 0.19319, 0.21021,	0.091091, 0.098098, 0.11512, 0.12212, 0.13914, 0.14615, 0.16316, 0.17017, 0.18719, 0.19419, 0.21121,	0.092092, 0.099099, 0.11612, 0.12312, 0.14014, 0.14715, 0.16416, 0.17117, 0.18819, 0.1952, 0.21221,	0.093093, 0.1001, 0.11712, 0.12412, 0.14414, 0.14815, 0.16517, 0.17217, 0.18919, 0.1962, 0.21321,	0.077077, 0.094094, 0.1011, 0.11812, 0.12513, 0.14214, 0.14915, 0.16617, 0.17317, 0.19019, 0.1972, 0.21421,	0.078078, 0.095095, 0.1021, 0.11912, 0.12613, 0.14314, 0.15015, 0.16717, 0.17417, 0.19119, 0.1982,	0.1031, 0.12713, 0.15115, 0.17518, 0.1992,	0.1041, 0.12813, 0.15215, 0.17618, 0.2002,	0.081081, 0.10511, 0.12913, 0.15315, 0.17718, 0.2012,	0.082082, 0.10611, 0.13013, 0.15415, 0.17818, 0.2022,	0.10711, 0.13113, 0.15516, 0.17918, 0.2032,	0.10811, 0.13213, 0.15616, 0.18018, 0.2042,	0.10911, 0.13313, 0.15716, 0.18118, 0.20521,	0.11011, 0.13413, 0.15816, 0.18218, 0.20621,	0.11111, 0.13514, 0.15916, 0.18318, 0.20721,	0.0.0.
13614, 16016, 18418,	0.11311, 0.12012, 0.13714, 0.14414, 0.16116, 0.16817, 0.18519, 0.19219,	0.097097, 0.11411, 0.12112, 0.13814, 0.14515, 0.16216, 0.16917, 0.18619, 0.19319,	0.091091, 0.098098, 0.11512, 0.12212, 0.13914, 0.14615, 0.16316, 0.17017, 0.18719, 0.19419,	0.092092, 0.099099, 0.11612, 0.12312, 0.14014, 0.14715, 0.16416, 0.17117, 0.18819, 0.1952,	0.093093, 0.1001, 0.11712, 0.12412, 0.14114, 0.14815, 0.16517, 0.17217, 0.18919, 0.1962,	0.077077, 0.094094, 0.1011, 0.11812, 0.12513, 0.14214, 0.14915, 0.16617, 0.17317, 0.19019, 0.1972,	0.078078, 0.095095, 0.1021, 0.11912, 0.12613, 0.14314, 0.15015, 0.16717, 0.17417, 0.19119, 0.1982,	0.1031, 0.12713, 0.15115, 0.17518,	0.1041, 0.12813, 0.15215, 0.17618,	0.081081, 0.10511, 0.12913, 0.15315, 0.17718,	0.082082, 0.10611, 0.13013, 0.15415, 0.17818,	0.10711, 0.13113, 0.15516, 0.17918,	0.10811, 0.13213, 0.15616, 0.18018,	0.10911, 0.13313, 0.15716, 0.18118,	0.11011, 0.13413, 0.15816, 0.18218,	0.11111, 0.13514, 0.15916, 0.18318,	0.0.0.
13614, 16016, 18418, 20821, 23223,	0.11311, 0.12012, 0.13714, 0.14414, 0.16116, 0.16817, 0.19219, 0.20921, 0.21622, 0.23323, 0.24024,	0.097097, 0.11411, 0.12112, 0.13814, 0.14515, 0.16216, 0.16917, 0.18619, 0.19319, 0.21021, 0.21722, 0.23423, 0.24124,	0.091091, 0.098098, 0.11512, 0.12212, 0.13914, 0.14615, 0.16316, 0.17017, 0.18719, 0.19419, 0.21121, 0.21822, 0.23524,	0.092092, 0.099099, 0.11612, 0.12312, 0.14014, 0.14715, 0.16416, 0.17117, 0.18819, 0.1952, 0.21221, 0.21922, 0.23624, 0.24324,	0.093093, 0.1001, 0.11712, 0.12412, 0.14414, 0.14815, 0.16517, 0.17217, 0.18919, 0.1962, 0.21321, 0.22022, 0.23724, 0.24424,	0.077077, 0.094094, 0.1011, 0.11812, 0.12513, 0.14214, 0.14915, 0.16617, 0.17317, 0.19019, 0.1972, 0.21421, 0.22122, 0.23824, 0.24525,	0.078078, 0.095095, 0.1021, 0.11912, 0.12613, 0.14314, 0.15015, 0.16717, 0.17417, 0.1982, 0.21522, 0.22222, 0.23924, 0.24625,	0.1031, 0.12713, 0.15115, 0.17518, 0.1992,	0.1041, 0.12813, 0.15215, 0.17618, 0.2002,	0.081081, 0.10511, 0.12913, 0.15315, 0.17718, 0.2012,	0.082082, 0.10611, 0.13013, 0.15415, 0.17818, 0.2022,	0.10711, 0.13113, 0.15516, 0.17918, 0.2032,	0.10811, 0.13213, 0.15616, 0.18018, 0.2042,	0.10911, 0.13313, 0.15716, 0.18118, 0.20521,	0.11011, 0.13413, 0.15816, 0.18218, 0.20621,	0.11111, 0.13514, 0.15916, 0.18318, 0.20721,	0.0.0.
13614, 16016, 18418, 20821,	0.11311, 0.12012, 0.13714, 0.14414, 0.16116, 0.16817, 0.19219, 0.20921, 0.21622, 0.23323, 0.24024, 0.25726,	0.097097, 0.11411, 0.12112, 0.13814, 0.14515, 0.16216, 0.16917, 0.18619, 0.21021, 0.21722, 0.23423, 0.24124, 0.25826,	0.091091, 0.098098, 0.11512, 0.12212, 0.13914, 0.14615, 0.16316, 0.17017, 0.18719, 0.19419, 0.21121, 0.21822, 0.24224, 0.25926,	0.092092, 0.099099, 0.11612, 0.12312, 0.14014, 0.14715, 0.16416, 0.17117, 0.18819, 0.1952, 0.21221, 0.21922, 0.23624, 0.24324, 0.26026,	0.093093, 0.1001, 0.11712, 0.12412, 0.14414, 0.14815, 0.16517, 0.17217, 0.18919, 0.1962, 0.21321, 0.22022, 0.23724, 0.242424,	0.077077, 0.094094, 0.1011, 0.11812, 0.12513, 0.14214, 0.14915, 0.16617, 0.17317, 0.19019, 0.1972, 0.21421, 0.22122, 0.23824, 0.24525, 0.26226,	0.078078, 0.095095, 0.1021, 0.11912, 0.12613, 0.14314, 0.15015, 0.16717, 0.17417, 0.19919, 0.21522, 0.22222, 0.23924, 0.24625, 0.26326,	0.1031, 0.12713, 0.15115, 0.17518, 0.1992, 0.22322,	0.1041, 0.12813, 0.15215, 0.17618, 0.2002, 0.22422, 0.24825,	0.081081, 0.10511, 0.12913, 0.15315, 0.17718, 0.2012, 0.22523, 0.24925,	0.082082, 0.10611, 0.13013, 0.15415, 0.17818, 0.2022, 0.22623, 0.25025,	0.10711, 0.13113, 0.15516, 0.17918, 0.2032, 0.22723,	0.10811, 0.13213, 0.15616, 0.18018, 0.2042, 0.22823,	0.10911, 0.13313, 0.15716, 0.18118, 0.20521, 0.22923, 0.25325,	0.11011, 0.13413, 0.15816, 0.18218, 0.20621, 0.23023, 0.25425,	0.11111, 0.13514, 0.15916, 0.18318, 0.20721, 0.23123, 0.25526,	0.0.0.0.0.
13614, 16016, 18418, 20821, 23223, 25626,	0.11311, 0.12012, 0.13714, 0.14414, 0.16116, 0.16817, 0.18519, 0.20921, 0.20622, 0.23323, 0.24024, 0.25726, 0.26426,	0.097097, 0.11411, 0.12112, 0.13814, 0.16216, 0.16917, 0.18619, 0.21021, 0.21722, 0.23423, 0.24124, 0.25527,	0.091091, 0.098098, 0.11512, 0.12212, 0.13914, 0.14615, 0.16316, 0.17017, 0.18719, 0.19419, 0.21121, 0.21822, 0.23524, 0.24224, 0.25926, 0.26627,	0.092092, 0.099099, 0.11612, 0.12312, 0.14014, 0.14715, 0.16416, 0.177117, 0.18819, 0.1952, 0.21221, 0.21922, 0.23624, 0.24324, 0.26026, 0.26727,	0.093093, 0.1001, 0.11712, 0.12412, 0.12414, 0.14815, 0.16517, 0.17217, 0.1962, 0.21321, 0.22022, 0.23724, 0.24424, 0.26827,	0.077077, 0.094094, 0.1011, 0.11812, 0.12513, 0.14214, 0.14915, 0.16617, 0.17317, 0.19019, 0.1972, 0.21421, 0.22122, 0.23824, 0.24525, 0.26226, 0.26927,	0.078078, 0.095095, 0.1021, 0.11921, 0.12613, 0.14314, 0.15015, 0.16717, 0.17417, 0.19919, 0.21522, 0.22222, 0.23924, 0.24625, 0.26326, 0.27027,	0.1031, 0.12713, 0.15115, 0.17518, 0.1992, 0.22322,	0.1041, 0.12813, 0.15215, 0.17618, 0.2002, 0.22422,	0.081081, 0.10511, 0.12913, 0.15315, 0.17718, 0.2012,	0.082082, 0.10611, 0.13013, 0.15415, 0.17818, 0.2022,	0.10711, 0.13113, 0.15516, 0.17918, 0.2032, 0.22723,	0.10811, 0.13213, 0.15616, 0.18018, 0.2042, 0.22823,	0.10911, 0.13313, 0.15716, 0.18118, 0.20521, 0.22923,	0.11011, 0.13413, 0.15816, 0.18218, 0.20621, 0.23023,	0.11111, 0.13514, 0.15916, 0.18318, 0.20721, 0.23123,	0.0.0.0.
13614, 16016, 18418, 20821, 23223,	0.11311, 0.12012, 0.13714, 0.14414, 0.16116, 0.16817, 0.18519, 0.19219, 0.20921, 0.21622, 0.23323, 0.24024, 0.25726, 0.26426, 0.28128,	0.097097, 0.11411, 0.12112, 0.13814, 0.14515, 0.16216, 0.16917, 0.18619, 0.19319, 0.21021, 0.21021, 0.21722, 0.23423, 0.24124, 0.25826, 0.26527, 0.28228,	0.091091, 0.098098, 0.11512, 0.12212, 0.13914, 0.14615, 0.16316, 0.17017, 0.18719, 0.19419, 0.21121, 0.21822, 0.23524, 0.24224, 0.25926, 0.26627, 0.28328,	0.092092, 0.099099, 0.11612, 0.12312, 0.14014, 0.14715, 0.16416, 0.177117, 0.18819, 0.1952, 0.21221, 0.21221, 0.23624, 0.24324, 0.26026, 0.26727, 0.28428,	0.093093, 0.1001, 0.11712, 0.12412, 0.12414, 0.14815, 0.16517, 0.17217, 0.18919, 0.1962, 0.21321, 0.22022, 0.23724, 0.24424, 0.26126, 0.26827, 0.28529,	0.077077, 0.094094, 0.1011, 0.11812, 0.12513, 0.14214, 0.14915, 0.16617, 0.17317, 0.19019, 0.1972, 0.21421, 0.22122, 0.23824, 0.24525, 0.26226, 0.26927, 0.28629,	0.078078, 0.095095, 0.1021, 0.11921, 0.12613, 0.14314, 0.15015, 0.16717, 0.17417, 0.1981, 0.21522, 0.22222, 0.23924, 0.26326, 0.27027, 0.28729,	0.1031, 0.12713, 0.15115, 0.17518, 0.1992, 0.22322, 0.24725, 0.27127,	0.1041, 0.12813, 0.15215, 0.17618, 0.2002, 0.22422, 0.24825,	0.081081, 0.10511, 0.12913, 0.15315, 0.17718, 0.2012, 0.22523, 0.24925, 0.27327,	0.082082, 0.10611, 0.13013, 0.15415, 0.17818, 0.2022, 0.22623, 0.25025, 0.27427,	0.10711, 0.13113, 0.15516, 0.17918, 0.2032, 0.22723, 0.25125, 0.27528,	0.10811, 0.13213, 0.15616, 0.18018, 0.2042, 0.22823, 0.25225,	0.10911, 0.13313, 0.15716, 0.18118, 0.20521, 0.22923, 0.25325, 0.27728,	0.11011, 0.13413, 0.15816, 0.18218, 0.20621, 0.23023, 0.25425, 0.27828,	0.11111, 0.13514, 0.15916, 0.18318, 0.20721, 0.23123, 0.25526, 0.27928,	0.0.0.0.0.
13614, 16016, 18418, 20821, 23223, 25626,	0.11311, 0.12012, 0.13714, 0.14414, 0.16116, 0.16817, 0.18519, 0.20921, 0.20622, 0.23323, 0.24024, 0.25726, 0.26426,	0.097097, 0.11411, 0.12112, 0.13814, 0.16216, 0.16917, 0.18619, 0.21021, 0.21722, 0.23423, 0.24124, 0.25527,	0.091091, 0.098098, 0.11512, 0.12212, 0.13914, 0.14615, 0.16316, 0.17017, 0.18719, 0.19419, 0.21121, 0.21822, 0.23524, 0.24224, 0.25926, 0.26627,	0.092092, 0.099099, 0.11612, 0.12312, 0.14014, 0.14715, 0.16416, 0.177117, 0.18819, 0.1952, 0.21221, 0.21922, 0.23624, 0.24324, 0.26026, 0.26727,	0.093093, 0.1001, 0.11712, 0.12412, 0.12414, 0.14815, 0.16517, 0.17217, 0.1962, 0.21321, 0.22022, 0.23724, 0.24424, 0.26827,	0.077077, 0.094094, 0.1011, 0.11812, 0.12513, 0.14214, 0.14915, 0.16617, 0.17317, 0.19019, 0.1972, 0.21421, 0.22122, 0.23824, 0.24525, 0.26226, 0.26927,	0.078078, 0.095095, 0.1021, 0.11921, 0.12613, 0.14314, 0.15015, 0.16717, 0.17417, 0.19919, 0.21522, 0.22222, 0.23924, 0.24625, 0.26326, 0.27027,	0.1031, 0.12713, 0.15115, 0.17518, 0.1992, 0.22322,	0.1041, 0.12813, 0.15215, 0.17618, 0.2002, 0.22422, 0.24825,	0.081081, 0.10511, 0.12913, 0.15315, 0.17718, 0.2012, 0.22523, 0.24925,	0.082082, 0.10611, 0.13013, 0.15415, 0.17818, 0.2022, 0.22623, 0.25025,	0.10711, 0.13113, 0.15516, 0.17918, 0.2032, 0.22723,	0.10811, 0.13213, 0.15616, 0.18018, 0.2042, 0.22823,	0.10911, 0.13313, 0.15716, 0.18118, 0.20521, 0.22923, 0.25325,	0.11011, 0.13413, 0.15816, 0.18218, 0.20621, 0.23023, 0.25425,	0.11111, 0.13514, 0.15916, 0.18318, 0.20721, 0.23123, 0.25526,	0.0.0.0.0.
13614, 16016, 18418, 20821, 23223, 25626, 28028,	0.11311, 0.12012, 0.13714, 0.14414, 0.16116, 0.16817, 0.19219, 0.20921, 0.21622, 0.23323, 0.24024, 0.25726, 0.26426, 0.26426, 0.28128,	0.097097, 0.11411, 0.12112, 0.13814, 0.14515, 0.16216, 0.16917, 0.18619, 0.19319, 0.21021, 0.21722, 0.23423, 0.24124, 0.25826, 0.26527, 0.28228, 0.28929,	0.091091, 0.098098, 0.11512, 0.12212, 0.13914, 0.14615, 0.16316, 0.17017, 0.18719, 0.21121, 0.21121, 0.2524, 0.2524, 0.26627, 0.28328, 0.29029,	0.092092, 0.099099, 0.11612, 0.12312, 0.14014, 0.14715, 0.16416, 0.17117, 0.18819, 0.1952, 0.21221, 0.21922, 0.23624, 0.26026, 0.26727, 0.28428, 0.29129,	0.093093, 0.1001, 0.11712, 0.12412, 0.12414, 0.14815, 0.16517, 0.17217, 0.1962, 0.21321, 0.22022, 0.23724, 0.26126, 0.26827, 0.28529,	0.077077, 0.094094, 0.1011, 0.11812, 0.12513, 0.14214, 0.14915, 0.16617, 0.17317, 0.19019, 0.1972, 0.21421, 0.22122, 0.23824, 0.24525, 0.26226, 0.26927, 0.28629, 0.29329,	0.078078, 0.095095, 0.1021, 0.11912, 0.12613, 0.14314, 0.15015, 0.16717, 0.17417, 0.19119, 0.1982, 0.21522, 0.22222, 0.23924, 0.24625, 0.26326, 0.27027, 0.28729, 0.29429,	0.1031, 0.12713, 0.15115, 0.17518, 0.1992, 0.22322, 0.24725, 0.27127,	0.1041, 0.12813, 0.15215, 0.17618, 0.2002, 0.22422, 0.24825,	0.081081, 0.10511, 0.12913, 0.15315, 0.17718, 0.2012, 0.22523, 0.24925, 0.27327,	0.082082, 0.10611, 0.13013, 0.15415, 0.17818, 0.2022, 0.22623, 0.25025, 0.27427,	0.10711, 0.13113, 0.15516, 0.17918, 0.2032, 0.22723, 0.25125, 0.27528,	0.10811, 0.13213, 0.15616, 0.18018, 0.2042, 0.22823, 0.25225,	0.10911, 0.13313, 0.15716, 0.18118, 0.20521, 0.22923, 0.25325, 0.27728,	0.11011, 0.13413, 0.15816, 0.18218, 0.20621, 0.23023, 0.25425, 0.27828,	0.11111, 0.13514, 0.15916, 0.18318, 0.20721, 0.23123, 0.25526, 0.27928,	0.0.0.0.0.

	0.33634,	0.33734,	0.33834,	0.33934,	0.34034,	0.34134,	0.34234,	0.34334,	0.34434,	0.34535,	0.34635,	0.34735,	0.34835,	0.34935,	0.35035,	0.35135,	0.
3523	5, 0.35335, 0.36036,	0.35435, 0.36136,	0.35536, 0.36236,	0.35636, 0.36336,	0.35736, 0.36436,	0.35836, 0.36537,	0.35936, 0.36637,	0.36737,	0.36837,	0.36937,	0.37037,	0.37137,	0.37237,	0.37337,	0.37437,	0.37538,	0.
3763	3, 0.37738,	0.37838,	0.37938,	0.38038,	0.38138,	0.38238,	0.38338,										
0.40	0.38438, 04, 0.4014,	0.38539, 0.4024,	0.38639, 0.4034,	0.38739, 0.4044,	0.38839, 0.40541,	0.38939, 0.40641,	0.39039, 0.40741,	0.39139,	0.39239,	0.39339,	0.39439,	0.3954,	0.3964,	0.3974,	0.3984,	0.3994,	
0.40	0.40841,	0.40941,	0.41041,	0.41141,	0.41241,	0.41341,	0.41441,	0.41542,	0.41642,	0.41742,	0.41842,	0.41942,	0.42042,	0.42142,	0.42242,	0.42342,	0.
4244	2, 0.42543,	0.42643,	0.42743,	0.42843,	0.42943,	0.43043,	0.43143,										
4484	0.43243, 5, 0.44945,	0.43343, 0.45045,	0.43443, 0.45145,	0.43544, 0.45245,	0.43644, 0.45345,	0.43744, 0.45445,	0.43844, 0.45546,	0.43944,	0.44044,	0.44144,	0.44244,	0.44344,	0.44444,	0.44545,	0.44645,	0.44745,	0.
4404.	0.45646,	0.45746,	0.45846,	0.45946,	0.46046,	0.46146,	0.46246,	0.46346,	0.46446,	0.46547,	0.46647,	0.46747,	0.46847,	0.46947,	0.47047,	0.47147,	0.
4724		0.47447,	0.47548,	0.47648,	0.47748,	0.47848,	0.47948,	0 40740	0.40040		0.40040	0 40440	0.40040	0.40240		0 4055	
0.49	0.48048, 55, 0.4975,	0.48148, 0.4985,	0.48248, 0.4995,	0.48348, 0.5005,	0.48448, 0.5015,	0.48549, 0.5025,	0.48649, 0.5035,	0.48749,	0.48849,	0.48949,	0.49049,	0.49149,	0.49249,	0.49349,	0.49449,	0.4955,	
	0.5045,	0.50551,	0.50651,	0.50751,	0.50851,	0.50951,	0.51051,	0.51151,	0.51251,	0.51351,	0.51451,	0.51552,	0.51652,	0.51752,	0.51852,	0.51952,	0.
5205	2, 0.52152, 0.52853,	0.52252, 0.52953,	0.52352, 0.53053,	0.52452, 0.53153,	0.52553, 0.53253,	0.52653, 0.53353,	0.52753, 0.53453,	0.53554,	0.53654,	0.53754,	0.53854,	0.53954,	0.54054,	0.54154,	0.54254,	0.54354,	0.
5445		0.54655,	0.54755,	0.54855,	0.54955,	0.55055,	0.55155,	0.33334,	0.33034,	0.55754,	0.55654,	0.33534,	0.34034,	0.54154,	0.34234,	0.34334,	٥.
	0.55255,	0.55355,	0.55455,	0.55556,	0.55656,	0.55756,	0.55856,	0.55956,	0.56056,	0.56156,	0.56256,	0.56356,	0.56456,	0.56557,	0.56657,	0.56757,	0.
5685	7, 0.56957, 0.57658,	0.57057, 0.57758,	0.57157, 0.57858,	0.57257, 0.57958,	0.57357, 0.58058,	0.57457, 0.58158,	0.57558, 0.58258,	0.58358,	0.58458,	0.58559,	0.58659,	0.58759,	0.58859,	0.58959,	0.59059,	0.59159,	0.
5925		0.59459,	0.5956,	0.5966,	0.5976,	0.5986,	0.5996,	0.50550,	0.30430,	0.50555,	0.30033,	0.50755,	0.30033,	0.50555,	0.55055,	0.33133,	٥.
	0.6006,	0.6016,	0.6026,	0.6036,	0.6046,	0.60561,	0.60661,	0.60761,	0.60861,	0.60961,	0.61061,	0.61161,	0.61261,	0.61361,	0.61461,	0.61562,	0.
6166	2, 0.61762, 0.62462,	0.61862, 0.62563,	0.61962, 0.62663,	0.62062, 0.62763,	0.62162, 0.62863,	0.62262, 0.62963,	0.62362, 0.63063,	0.63163,	0.63263,	0.63363,	0.63463,	0.63564,	0.63664,	0.63764,	0.63864,	0.63964,	0.
6406		0.64264,	0.64364,	0.64464,	0.64565,	0.64665,	0.64765,	,			,	,	,	,	,	,	
CCAC	0.64865,	0.64965,	0.65065,	0.65165,	0.65265,	0.65365,	0.65465,	0.65566,	0.65666,	0.65766,	0.65866,	0.65966,	0.66066,	0.66166,	0.66266,	0.66366,	0.
6646	6, 0.66567, 0.67267,	0.66667, 0.67367,	0.66767, 0.67467,	0.66867, 0.67568,	0.66967, 0.67668,	0.67067, 0.67768,	0.67167, 0.67868,	0.67968,	0.68068,	0.68168,	0.68268,	0.68368,	0.68468,	0.68569,	0.68669,	0.68769,	0.
68869		0.69069,	0.69169,	0.69269,	0.69369,	0.69469,	0.6957,										
7127	0.6967, 1, 0.71371,	0.6977, 0.71471,	0.6987, 0.71572,	0.6997, 0.71672,	0.7007, 0.71772,	0.7017, 0.71872,	0.7027, 0.71972,	0.7037,	0.7047,	0.70571,	0.70671,	0.70771,	0.70871,	0.70971,	0.71071,	0.71171,	0.
,,	0.72072,	0.72172,	0.72272,	0.72372,	0.72472,	0.72573,	0.72673,	0.72773,	0.72873,	0.72973,	0.73073,	0.73173,	0.73273,	0.73373,	0.73473,	0.73574,	0.
7367		0.73874,	0.73974,	0.74074,	0.74174,	0.74274,	0.74374,	0 75175	0.75275	0.75275	0.75475	0.75576	0.75676	0 75776	0.75076	0.75076	0
7607	0.74474, 5, 0.76176,	0.74575, 0.76276,	0.74675, 0.76376,	0.74775, 0.76476,	0.74875, 0.76577,	0.74975, 0.76677,	0.75075, 0.76777,	0.75175,	0.75275,	0.75375,	0.75475,	0.75576,	0.75676,	0.75776,	0.75876,	0.75976,	0.
	0.76877,	0.76977,	0.77077,	0.77177,	0.77277,	0.77377,	0.77477,	0.77578,	0.77678,	0.77778,	0.77878,	0.77978,	0.78078,	0.78178,	0.78278,	0.78378,	0.
7847	3, 0.78579, 0.79279,	0.78679, 0.79379,	0.78779, 0.79479,	0.78879, 0.7958,	0.78979, 0.7968,	0.79079, 0.7978,	0.79179, 0.7988,	0.7998,	0.8008,	0.8018,	0.8028,	0.8038,	0.8048,	0.80581,	0.80681,	0.80781,	0.
8088		0.81081,	0.73473,	0.81281,	0.81381,	0.81481,	0.7588,	0.7550,	0.8008,	0.0010,	0.0020,	0.0030,	0.0046,	0.00301,	0.00001,	0.00761,	٥.
	0.81682,	0.81782,	0.81882,	0.81982,	0.82082,	0.82182,	0.82282,	0.82382,	0.82482,	0.82583,	0.82683,	0.82783,	0.82883,	0.82983,	0.83083,	0.83183,	0.
8328	3, 0.83383, 0.84084,	0.83483, 0.84184,	0.83584, 0.84284,	0.83684, 0.84384,	0.83784, 0.84484,	0.83884, 0.84585,	0.83984, 0.84685,	0.84785,	0.84885,	0.84985,	0.85085,	0.85185,	0.85285,	0.85385,	0.85485,	0.85586,	0.
8568	6, 0.85786,	0.85886,	0.85986,	0.86086,	0.86186,	0.86286,	0.86386,										
0000	0.86486, 3, 0.88188,	0.86587, 0.88288,	0.86687, 0.88388,	0.86787, 0.88488,	0.86887, 0.88589,	0.86987,	0.87087, 0.88789,	0.87187,	0.87287,	0.87387,	0.87487,	0.87588,	0.87688,	0.87788,	0.87888,	0.87988,	0.
88088	0.88889,	0.88989,	0.89089,	0.89189,	0.89289,	0.88689, 0.89389,	0.89489,	0.8959,	0.8969,	0.8979,	0.8989,	0.8999,	0.9009,	0.9019,	0.9029,	0.9039,	
0.90		0.90691,	0.90791,	0.90891,	0.90991,	0.91091,	0.91191,										
9289	0.91291, 3, 0.92993,	0.91391, 0.93093,	0.91491, 0.93193,	0.91592, 0.93293,	0.91692, 0.93393,	0.91792, 0.93493,	0.91892, 0.93594,	0.91992,	0.92092,	0.92192,	0.92292,	0.92392,	0.92492,	0.92593,	0.92693,	0.92793,	0.
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0.93694,	0.93794,	0.93894,	0.93994,	0.94094,	0.94194,	0.94294,	0.94394,	0.94494,	0.94595,	0.94695,	0.94795,	0.94895,	0.94995,	0.95095,	0.95195,	0.
9529		0.95495,	0.95596,	0.95696,	0.95796,	0.95896,	0.95996,	0.06707	0.0007	0.00007	0.07007	0.07107	0.07207	0.07207	0.07407	0.07500	0
9769	0.96096, 3, 0.97798,	0.96196, 0.97898,	0.96296, 0.97998,	0.96396, 0.98098,	0.96496, 0.98198,	0.96597, 0.98298,	0.96697, 0.98398,	0.96797,	0.96897,	0.96997,	0.97097,	0.97197,	0.97297,	0.97397,	0.97497,	0.97598,	0.
	0.98498,	0.98599,	0.98699,	0.98799,	0.98899,	0.98999,	0.99099,	0.99199,	0.99299,	0.99399,	0.99499,	0.996,	0.997,	0.998,	0.999,		, arra
у([[67,	0.42424, 0.79156,	0.42424, 0.79304,	0.5455, 0.79415,	0.65221, 0.79526,		0.71717, 0.79747,	0.72036,	0.72294,	0.72757,	0.7361,	0.74648,	0.75777,	0.76149,	0.77058,	0.78585,	0.78776,	0.789
07,	0.79857,	0.79967,	0.81141,	0.81516,	0.81373,	0.8123,	0.81086,	0.80943,	0.80799,	0.80655,	0.80511,	0.80533,	0.81224,	0.81423,	0.81621,	0.81819,	
0.82						0.82344		0.00703	0.00047	0.02452	0.00000	0.02502	0.00505	0.00700	0.00740	0 00=04	
0.83	0.824, 75, 0.83765,	0.82457, 0.83781,	0.82513, 0.83797,		0.82625, 0.83829,	0.82681, 0.83845,	0.82737,	0.82793,	0.82917,	0.83153,	0.83389,	0.83623,	0.83686,	0.83702,	0.83718,	0.83734,	
	0.83861,	0.83876,	0.83892,	0.83908,	0.83924,	0.8394,	0.83956,	0.83971,	0.83987,	0.84003,	0.84019,	0.84035,	0.8405,	0.84066,	0.84082,	0.84098,	
0.84	0.84129 0.84224,	, 0.84145 0.8424,	, 0.84161 0.84255,		, 0.84192, 0.84287,	0.84208 0.84302,	, 0.84318,	0.84334,	0.8435,	0.84365,	0.84381,	0.84397,	0.84412,	0.84428,	0.84444,	0.84459,	
0.84								0.04334,	0.0433,	0.04505,	0.04301,	0.04337,	0.04412,	0.04420,	0.04444,	0.04433,	
0.05	0.84778,	0.84856,	0.84934,		0.8509,	0.85167,	0.85244,	0.85322,	0.85399,	0.85439,	0.85468,	0.85497,	0.85526,	0.85555,	0.85584,	0.85614,	
0.85	543, 0.85672 0.85845,	, 0.85701 0.85874,	, 0.85729 0.85903,		, 0.85787, 0.85961,	0.85816 0.85989,	, 0.86018,	0.86047,	0.86076,	0.86105,	0.86133,	0.86162,	0.86191,	0.86219,	0.86248,	0.86277,	
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0.86305,	0.86333,	0.8636,	0.86387,	0.86414,	0.86441,	0.86468,											
	0.86495,	0.86522,	0.86549,	0.86576,	0.86603,	0.8663,	0.86657,	0.86684,	0.86711,	0.86738,	0.86765,	0.86792,	0.86818,	0.86845,	0.86872,	0.86899,	
0.86926,	0.86952,	0.86979,	0.87006,	0.87033,	0.87059,	0.87086,	0.0000	0.0503	0.05035	0.05043	0.05040	0.05055	0.05050	0.05050	0.05074	0.0004	
0.86087,	0.87113, 0.86094,	0.87139,	0.87166,	0.87193,	0.87219, 0.86119,	0.86768,	0.86023,	0.8603,	0.86036,	0.86043,	0.86049,	0.86055,	0.86062,	0.86068,	0.86074,	0.86081,	
0.00007,	0.86132,	0.861, 0.86138,	0.86106, 0.86145,	0.86113, 0.86151,	0.86157,	0.86126, 0.86164,	0.8617,	0.86177,	0.86183,	0.86189,	0.86196,	0.86202,	0.86208,	0.86215,	0.86221,	0.86227,	
0.86234,	0.8624,	0.86247,	0.86253,	0.86259,	0.86266,	0.86272,	0.0017,	0.00177,	0.00105,	0.00105,	0.00150,	0.00202,	0.00200,	0.00215,	0.00221,	0.00227,	
,	0.86278,	0.86285,	0.86291,	0.86297,	0.86304,	0.8631,	0.86316,	0.86323,	0.86329,	0.86336,	0.86342,	0.86348,	0.86355,	0.86361,	0.86367,	0.86374,	
0.8638,	0.86386,	0.86393,	0.86399,	0.86405,	0.86412,	0.86418,											
	0.86424,	0.86431,	0.86437,	0.86443,	0.8645,	0.86456,	0.86462,	0.86469,	0.86475,	0.86481,	0.86488,	0.86494,	0.865,	0.86507,	0.86513,	0.86519,	
0.86526,	0.86532,	0.86538,	0.86545,	0.86551,	0.86557,	0.86564,											
0.05574	0.8657,	0.86576,	0.86583,	0.86589,	0.86595,	0.86601,	0.86608,	0.86614,	0.8662,	0.86627,	0.86633,	0.86639,	0.86646,	0.86652,	0.86658,	0.86665,	
0.86671,	0.86677, 0.86715,	0.86684,	0.8669,	0.86696,	0.86702,	0.86709, 0.86747,	0.06753	0.06750	0.00765	0.06773	0.06770	0.86784,	0.86791,	0.06707	0.86803,	0.86809,	
0.86816,	0.86822,	0.86721, 0.86828,	0.86728, 0.86835,	0.86734, 0.86841,	0.8674, 0.86847,	0.86853,	0.86753,	0.86759,	0.86765,	0.86772,	0.86778,	0.80784,	0.80791,	0.86797,	0.00003,	0.00009,	
,	0.8686,	0.86866,	0.86872,	0.86879,	0.86885,	0.86891,	0.86897,	0.86904,	0.8691,	0.86916,	0.86922,	0.86929,	0.86935,	0.86941,	0.86948,	0.86954,	
0.86962,	0.86971,	0.8698,	0.8699,	0.86999,	0.87008,	0.87017,	,	,	,		,	,		,	,	,	
	0.87027,	0.87036,	0.87045,	0.87055,	0.87064,	0.87073,	0.87082,	0.87092,	0.87101,	0.8711,	0.87119,	0.87129,	0.87138,	0.87147,	0.87156,	0.87166,	
0.87175,	0.87184,	0.87193,	0.87203,	0.87212,	0.87221,	0.8723,											
	0.8724,	0.87249,	0.87258,	0.87267,	0.87276,	0.87286,	0.87295,	0.87304,	0.87313,	0.87323,	0.87332,	0.87341,	0.8735,	0.87359,	0.87369,	0.87378,	
0.87387,	0.87396,	0.87405,	0.87415,	0.87424,	0.87433,	0.87442,	0.07506	0.07516	0.07525	0.07534	0.07543	0.07550	0.07563	0 07574	0.0750	0.07500	
0.87598,	0.87451, 0.87607,	0.87461, 0.87617,	0.8747, 0.87626,	0.87479, 0.87635,	0.87488, 0.87644,	0.87497, 0.87653,	0.87506,	0.87516,	0.87525,	0.87534,	0.87543,	0.87552,	0.87562,	0.87571,	0.8758,	0.87589,	
0.07550,	0.87662,	0.87671,	0.87681,	0.8769,	0.87699,	0.87708,	0.87717,	0.87726,	0.87735,	0.87745,	0.87754,	0.87763,	0.87772,	0.87781,	0.8779,	0.87799,	
0.87808,	0.87818,	0.87827,	0.87836,	0.87845,	0.87854,	0.87863,	,	,	,	,		,	,	,	,	,	
	0.87872,	0.87881,	0.8789,	0.879,	0.87909,	0.87935,	0.87972,	0.88008,	0.88045,	0.88081,	0.88118,	0.88154,	0.88191,	0.88227,	0.88264,	0.883,	
0.88336,	0.88373,	0.88409,	0.88445,	0.88481,	0.88518,	0.88554,											
	0.8859,	0.88626,	0.88662,	0.88698,	0.88734,	0.8877,	0.88806,	0.88842,	0.88878,	0.88764,	0.88586,	0.88408,	0.88229,	0.8805,	0.8787,	0.8769,	
0.87798,	0.88015,	0.88231,	0.88446,	0.88632,	0.8859,	0.88549,	0.00057	0.00245	0.00173	0.00122	0.0000	0.00040	0.00000	0.07064	0.07022	0.0700	
0.87838,	0.88507, 0.87796,	0.88465, 0.87754,	0.88424, 0.87712,	0.88382, 0.8767,	0.8834, 0.87628,	0.88299, 0.87586,	0.88257,	0.88215,	0.88173,	0.88132,	0.8809,	0.88048,	0.88006,	0.87964,	0.87922,	0.8788,	
0.07030,	0.87543,	0.87501,	0.87459,	0.87417,	0.87375,	0.8738,	0.87422,	0.87464,	0.87505,	0.87547,	0.87589,	0.8763,	0.87672,	0.87713,	0.87755,	0.87796,	
0.87838,	0.87879,	0.8792,	0.87962,	0.88003,	0.88044,	0.88085,	,	,	,	,	,	,	,	,	,	,	
	0.88126,	0.88168,	0.88209,	0.8825,	0.88291,	0.88331,	0.88389,	0.8942,	0.89432,	0.89445,	0.89457,	0.8947,	0.89482,	0.89495,	0.89507,	0.8952,	
0.89533,	0.89545,	0.89558,	0.8957,	0.89583,	0.89595,	0.89608,											
	0.8962,	0.89633,	0.89645,	0.89658,	0.8967,	0.89682,	0.89695,	0.89707,	0.8972,	0.89732,	0.89745,	0.89757,	0.8977,	0.89782,	0.89795,	0.89807,	
0.8982,	0.89832,	0.89844,	0.89857,	0.89869,	0.89882,	0.89894,	0.00001	0.00003	0.0000	0.00010	0.0003	0.00043	0.00055	0.00067	0.0000	0.00000	
0.90105,	0.89906, 0.90117,	0.89919, 0.90129,	0.89931, 0.90142,	0.89944, 0.90154,	0.89956, 0.90166,	0.89968, 0.90179,	0.89981,	0.89993,	0.90006,	0.90018,	0.9003,	0.90043,	0.90055,	0.90067,	0.9008,	0.90092,	
0.50105,	0.90191,	0.90203,	0.90216,	0.90228,	0.9024,	0.90252,	0.90265,	0.90277,	0.90289,	0.90302,	0.90314,	0.90326,	0.90339,	0.90351,	0.90363,	0.90375,	
0.90388,	0.904,	0.90412,	0.90424,	0.90437,	0.90449,	0.90461,	,	,	,	,	,	,	,	,	,	,	
	0.90473,	0.90497,	0.90523,	0.9055,	0.90577,	0.90603,	0.9063,	0.90656,	0.90683,	0.9071,	0.90736,	0.90763,	0.90789,	0.90816,	0.90842,	0.90868,	
0.90895,	0.90921,	0.90948,	0.90974,	0.91,	0.91027,	0.91053,											
	0.91079,	0.91106,	0.91132,	0.91158,	0.91184,	0.91211,	0.91237,	0.91263,	0.91289,	0.91315,	0.91342,	0.91368,	0.91394,	0.9142,	0.91446,	0.91472,	
0.91498,	0.91524,	0.9155,	0.91512,	0.91367,	0.91222,	0.91076,	0.00206	0.00335	0.00373	0.00443	0.00454	0.0040	0.00530	0.00567	0.0000	0.00645	
0.90683,	0.9093, 0.90722,	0.90784, 0.9076,	0.90637, 0.90799,	0.9049, 0.90837,	0.90343, 0.90875,	0.90257, 0.90914,	0.90296,	0.90335,	0.90373,	0.90412,	0.90451,	0.9049,	0.90529,	0.90567,	0.90606,	0.90645,	
0.50005,	0.90952,	0.9099,	0.91029,	0.91067,	0.91105,	0.91143,	0.91181,	0.91219,	0.91257,	0.91295,	0.91333,	0.91116,	0.90398,	0.89977,	0.89927,	0.89876,	
0.89826,	0.89775,	0.89725,	0.89674,	0.89623,	0.89573,	0.89522,	,	,	,	,	,	,	,	,	,	,	
	0.89471,	0.8942,	0.89369,	0.89318,	0.89267,	0.89216,	0.89165,	0.89114,	0.89063,	0.89012,	0.8896,	0.88909,	0.88858,	0.88806,	0.88755,	0.88703,	
0.88652,	0.88581,	0.88398,	0.88214,	0.88029,	0.87844,	0.87658,											
	0.87471,	0.87284,	0.87131,	0.87021,	0.8691,	0.868,	0.86689,	0.86578,	0.86467,	0.86355,	0.86243,	0.86132,	0.86019,	0.85907,	0.85794,	0.85583,	
0.85127,	0.84667,	0.8421,	0.84149,	0.84088,	0.84027,	0.83965,	0.83536,	0.02474	0.02412	0 0225	0.02200	0 02227	0.03165	0 02102	0.02041	0.0070	
0.82916,	0.83904, 0.82854,	0.83843, 0.82791,	0.83782, 0.82729,	0.8372, 0.82663,	0.83659, 0.81262,	0.83597, 0.80965,	0.63330,	0.83474,	0.83412,	0.8335,	0.83289,	0.83227,	0.83165,	0.83103,	0.83041,	0.82978,	
0.02510,	0.80831,	0.80698,	0.80564,	0.80429,	0.80295,	0.8016,	0.80024,	0.79889,	0.79753,	0.79617,	0.7948,	0.79378,	0.79284,	0.7919,	0.79095,	0.79001,	
0.78906,	0.78811,	0.78717,	0.78622,	0.78526,	0.78431,	0.78336,	,	,		,				,		,	
	0.7824,	0.78144,	0.78048,	0.77952,	0.77856,	0.7772,	0.77414,	0.77107,	0.76798,	0.76487,	0.76175,	0.7577,	0.75308,	0.74842,	0.74373,	0.73918,	
0.73464,	0.73007,	0.72546,	0.72212,	0.71905,	0.71596,	0.71286,											
0.40574	0.70974,	0.7066,	0.69957,	0.69129,	0.68434,	0.67918,	0.67398,	0.66874,	0.65995,	0.64871,	0.63675,	0.6244,	0.61144,	0.59772,	0.58283,	0.50333,	
0.48674,	0.47749,	0.47052, 0.43656,	0.4635,	0.4564,	0.45143,	0.4465,	A 21026	מ כפרים	0 20020	A 27220	a 26000	0 26467	0 2022	0 25507	0 35150	0 24710	
0.24276,	0.44155, 0.23559,	0.43656,	0.43154, 0.21194,	0.41001, 0.20256,	0.38157, 0.19817,	0.33327, 0.19376,	0.31826,	0.30273,	0.28636,	0.27328,	0.26898,	0.26467,	0.26033,	0.25597,	0.25159,	0.24719,	
0.242/0,	0.18932,	0.18487,	0.18039,	0.17589,	0.17136,	0.16682,	0.12324,	0.11865,	0.11403,	0.10939,	0.10473,	0.10004,	0.095335,	0.090603,	0.084051,	0.07146,	0.
058703,	0.045776,	0,	0,	0,	0,	0,		,	,				,			– ,	
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0,	0,	0,	0,	0,	0,	0,											
	0,	0,	0,	0,	0,	0,	0,	0,	0,	0,	0,	0,	0,	0,	0,	0,	

0,	0,	0,	0,	0,	0,	0,	9	9	9	0	a	0	0	9		9	
0,	0,	0,	0,	0,	0,	0,	0,	0,	0,	0,	0,	0,	0,	0,	0,	0,	
0,	0, 0,	0, 0,	0, 0,	0, 0,	0, 0,	0, 0,	0,	0,	0,	0,	0,	0,	0,	0,	0,	0,	
0.003003, 0.02002,	0, 0.004004, 0.021021,	0, 0.005005, 0.022022,	0, 0.006006, 0.023023,	0, 0.007007,	0, 0.008008,	0, 0.009009,	0, 0.01001,	0, 0.011011,	0, 0.012012,	0, 0.013013,	0]]) 0.014014,	, 'Confidence' 0.015015,	, 'F1'], [ar 0.016016,	ray([0.017017,	0, 0.001 0.018018,		02002, 9,
04004,	0.024024, 0.041041,	0.025025, 0.042042,	0.026026, 0.043043,	0.027027, 0.044044,	0.028028, 0.045045,	0.029029, 0.046046,	0.03003, 0.047047,	0.031031,	0.032032,	0.033033,	0.034034,		0.036036,	0.037037,	0.038038,	0.039039,	0.
64064,	0.048048, 0.065065,	0.049049, 0.066066,	0.05005, 0.067067,	0.051051, 0.068068,	0.052052, 0.069069,	0.053053, 0.07007,	0.054054, 0.071071,	0.055055,	0.056056,	0.057057,	0.058058,	0.059059,	0.06006,	0.061061,	0.062062,	0.063063,	0.0
0.001,	0.072072,	0.073073,	0.074074,	0.075075,	0.076076,	0.077077,	0.078078,	0.079079,	0.08008,	0.081081,	0.082082,	0.083083,	0.084084,	0.085085,	0.086086,	0.087087,	0.0
88088,	0.089089,	0.09009,	0.091091,	0.092092,	0.093093,	0.094094,	0.095095,	0 1021	0.1041	0 10511	0.10611	0.10711	0 10011	0 10011	0 11011	0 11111	0
11211,	0.096096, 0.11311,	0.097097, 0.11411,	0.098098, 0.11512,	0.099099, 0.11612,	0.1001, 0.11712,	0.1011, 0.11812,	0.1021, 0.11912,	0.1031,	0.1041,	0.10511,	0.10611,	0.10711,	0.10811,	0.10911,	0.11011,	0.11111,	0.
,	0.12012,	0.12112,	0.12212,	0.12312,	0.12412,	0.12513,	0.12613,	0.12713,	0.12813,	0.12913,	0.13013,	0.13113,	0.13213,	0.13313,	0.13413,	0.13514,	0.
13614,	0.13714, 0.14414,	0.13814, 0.14515,	0.13914, 0.14615,	0.14014, 0.14715,	0.14114, 0.14815,	0.14214, 0.14915,	0.14314, 0.15015,	0.15115,	0.15215,	0.15315,	0.15415,	0.15516,	0.15616,	0.15716,	0.15816,	0.15916,	0.
16016,	0.16116,	0.16216,	0.16316,	0.16416,	0.16517,	0.16617,	0.16717,	0.13113,	0.15215,	0.15515,	0.15415,	0.13310,	0.13010,	0.13/10,	0.13010,	0.13310,	0.
	0.16817,	0.16917,	0.17017,	0.17117,	0.17217,	0.17317,	0.17417,	0.17518,	0.17618,	0.17718,	0.17818,	0.17918,	0.18018,	0.18118,	0.18218,	0.18318,	0.
18418,	0.18519, 0.19219,	0.18619, 0.19319,	0.18719, 0.19419,	0.18819, 0.1952,	0.18919, 0.1962,	0.19019, 0.1972,	0.19119, 0.1982,	0.1992,	0.2002,	0.2012,	0.2022,	0.2032,	0.2042,	0.20521,	0.20621,	0.20721,	0.
20821,	0.20921,	0.21021,	0.21121,	0.21221,	0.21321,	0.21421,	0.21522,	0.1332,	0.2002,	0.2012,	0.2022,	0.2032,	0.20-2,	0.20321,	0.20021,	0.20721,	٠.
	0.21622,	0.21722,	0.21822,	0.21922,	0.22022,	0.22122,	0.22222,	0.22322,	0.22422,	0.22523,	0.22623,	0.22723,	0.22823,	0.22923,	0.23023,	0.23123,	0.
23223,	0.23323, 0.24024,	0.23423, 0.24124,	0.23524, 0.24224,	0.23624, 0.24324,	0.23724, 0.24424,	0.23824, 0.24525,	0.23924, 0.24625,	0.24725,	0.24825,	0.24925,	0.25025,	0.25125,	0.25225,	0.25325,	0.25425,	0.25526,	0.
25626,	0.25726,	0.25826,	0.25926,	0.26026,	0.26126,	0.26226,	0.26326,		,	,	,	,	,	,	,	,	
20020	0.26426,	0.26527,	0.26627,	0.26727,	0.26827,	0.26927,	0.27027,	0.27127,	0.27227,	0.27327,	0.27427,	0.27528,	0.27628,	0.27728,	0.27828,	0.27928,	0.
28028,	0.28128, 0.28829,	0.28228, 0.28929,	0.28328, 0.29029,	0.28428, 0.29129,	0.28529, 0.29229,	0.28629, 0.29329,	0.28729, 0.29429,	0.2953,	0.2963,	0.2973,	0.2983,	0.2993,	0.3003,	0.3013,	0.3023,	0.3033,	
0.3043,	0.30531,	0.30631,	0.30731,	0.30831,	0.30931,	0.31031,	0.31131,										
32833,	0.31231, 0.32933,	0.31331, 0.33033,	0.31431, 0.33133,	0.31532, 0.33233,	0.31632, 0.33333,	0.31732, 0.33433,	0.31832, 0.33534,	0.31932,	0.32032,	0.32132,	0.32232,	0.32332,	0.32432,	0.32533,	0.32633,	0.32733,	0.
32033,	0.33634,	0.33734,	0.33834,	0.33934,	0.34034,	0.34134,	0.34234,	0.34334,	0.34434,	0.34535,	0.34635,	0.34735,	0.34835,	0.34935,	0.35035,	0.35135,	0.
35235,	0.35335,	0.35435,	0.35536,	0.35636,	0.35736,	0.35836,	0.35936,										
37638,	0.36036, 0.37738,	0.36136, 0.37838,	0.36236, 0.37938,	0.36336, 0.38038,	0.36436, 0.38138,	0.36537, 0.38238,	0.36637, 0.38338,	0.36737,	0.36837,	0.36937,	0.37037,	0.37137,	0.37237,	0.37337,	0.37437,	0.37538,	0.
37030,	0.38438,	0.38539,	0.38639,	0.38739,	0.38839,	0.38939,	0.39039,	0.39139,	0.39239,	0.39339,	0.39439,	0.3954,	0.3964,	0.3974,	0.3984,	0.3994,	
0.4004,	0.4014,	0.4024,	0.4034,	0.4044,	0.40541,	0.40641,	0.40741,	0.41543	0.41643	0 41740	0.41042	0.41043	0 42042	0.42442	0 42242	0 42242	0
42442,	0.40841, 0.42543,	0.40941, 0.42643,	0.41041, 0.42743,	0.41141, 0.42843,	0.41241, 0.42943,	0.41341, 0.43043,	0.41441, 0.43143,	0.41542,	0.41642,	0.41742,	0.41842,	0.41942,	0.42042,	0.42142,	0.42242,	0.42342,	0.
	0.43243,	0.43343,	0.43443,	0.43544,	0.43644,	0.43744,	0.43844,	0.43944,	0.44044,	0.44144,	0.44244,	0.44344,	0.44444,	0.44545,	0.44645,	0.44745,	0.
44845,	0.44945, 0.45646,	0.45045, 0.45746,	0.45145, 0.45846,	0.45245, 0.45946,	0.45345, 0.46046,	0.45445, 0.46146,	0.45546, 0.46246,	0.46346,	0.46446,	0.46547,	0.46647,	0.46747,	0.46847,	0.46947,	0.47047,	0.47147,	0.
47247,	0.47347,	0.47447,	0.47548,	0.47648,	0.47748,	0.47848,	0.40240,	0.40540,	0.40440,	0.40347,	0.40047,	0.40747,	0.40047,	0.40547,	0.47047,	0.4/14/,	0.
	0.48048,	0.48148,	0.48248,	0.48348,	0.48448,	0.48549,	0.48649,	0.48749,	0.48849,	0.48949,	0.49049,	0.49149,	0.49249,	0.49349,	0.49449,	0.4955,	
0.4965,	0.4975, 0.5045,	0.4985, 0.50551,	0.4995, 0.50651,	0.5005, 0.50751,	0.5015, 0.50851,	0.5025, 0.50951,	0.5035, 0.51051,	0.51151,	0.51251,	0.51351,	0.51451,	0.51552,	0.51652,	0.51752,	0.51852,	0.51952,	0.
52052,	0.52152,	0.52252,	0.52352,	0.52452,	0.52553,	0.52653,	0.52753,	0.51151,	0.02201,	0.01001,	0132.32,	0.31332,	0131031,	0.51752,	0132032,	0.52552,	٠.
54454	0.52853,	0.52953,	0.53053,	0.53153,	0.53253,	0.53353,	0.53453,	0.53554,	0.53654,	0.53754,	0.53854,	0.53954,	0.54054,	0.54154,	0.54254,	0.54354,	0.
54454,	0.54555, 0.55255,	0.54655, 0.55355,	0.54755, 0.55455,	0.54855, 0.55556,	0.54955, 0.55656,	0.55055, 0.55756,	0.55155, 0.55856,	0.55956,	0.56056,	0.56156,	0.56256,	0.56356,	0.56456,	0.56557,	0.56657,	0.56757,	0.
56857,	0.56957,	0.57057,	0.57157,	0.57257,	0.57357,	0.57457,	0.57558,	,	,	,	,	,	,	,	,	,	
F02F0	0.57658,	0.57758,	0.57858,	0.57958,	0.58058,	0.58158,	0.58258,	0.58358,	0.58458,	0.58559,	0.58659,	0.58759,	0.58859,	0.58959,	0.59059,	0.59159,	0.
59259,	0.59359, 0.6006,	0.59459, 0.6016,	0.5956, 0.6026,	0.5966, 0.6036,	0.5976, 0.6046,	0.5986, 0.60561,	0.5996, 0.60661,	0.60761,	0.60861,	0.60961,	0.61061,	0.61161,	0.61261,	0.61361,	0.61461,	0.61562,	0.
61662,	0.61762,	0.61862,	0.61962,	0.62062,	0.62162,	0.62262,	0.62362,		-	-		-					
64064,	0.62462, 0.64164,	0.62563, 0.64264,	0.62663, 0.64364,	0.62763, 0.64464,	0.62863, 0.64565,	0.62963, 0.64665,	0.63063, 0.64765,	0.63163,	0.63263,	0.63363,	0.63463,	0.63564,	0.63664,	0.63764,	0.63864,	0.63964,	0.
04004,	0.64865,	0.64965,	0.65065,	0.65165,	0.65265,	0.65365,	0.65465,	0.65566,	0.65666,	0.65766,	0.65866,	0.65966,	0.66066,	0.66166,	0.66266,	0.66366,	0.
66466,	0.66567,	0.66667,	0.66767,	0.66867,	0.66967,	0.67067,	0.67167,	0 677	0.505	0.504	0.600	0. 600	0.604	0.605	0.60	0.65=	-
68869,	0.67267, 0.68969,	0.67367, 0.69069,	0.67467, 0.69169,	0.67568, 0.69269,	0.67668, 0.69369,	0.67768, 0.69469,	0.67868, 0.6957,	0.67968,	0.68068,	0.68168,	0.68268,	0.68368,	0.68468,	0.68569,	0.68669,	0.68769,	0.
,	0.6967,	0.6977,	0.6987,	0.6997,	0.7007,	0.7017,	0.7027,	0.7037,	0.7047,	0.70571,	0.70671,	0.70771,	0.70871,	0.70971,	0.71071,	0.71171,	0.
71271,	0.71371,	0.71471,	0.71572,	0.71672,	0.71772,	0.71872,	0.71972,	0 72772	a 72072	0 72072	0 72072	Q 72172	a 72272	A 72272	0 72472	Q 72574	a
73674,	0.72072, 0.73774,	0.72172, 0.73874,	0.72272, 0.73974,	0.72372, 0.74074,	0.72472, 0.74174,	0.72573, 0.74274,	0.72673, 0.74374,	0.72773,	0.72873,	0.72973,	0.73073,	0.73173,	0.73273,	0.73373,	0.73473,	0.73574,	0.

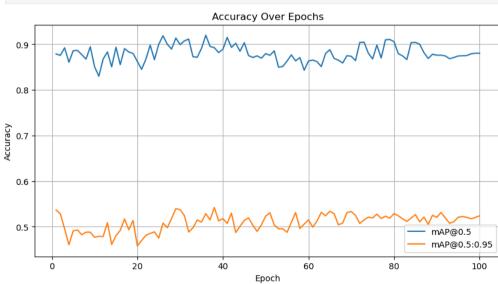
	0.74474,	0.74575,	0.74675,	0.74775,	0.74875,	0.74975,	0.75075,	0.75175,	0.75275,	0.75375,	0.75475,	0.75576,	0.75676,	0.75776,	0.75876,	0.75976,	0.
76076,	0.76176, 0.76877,	0.76276, 0.76977,	0.76376, 0.77077,	0.76476, 0.77177,	0.76577, 0.77277,	0.76677, 0.77377,	0.76777, 0.77477,	0.77578,	0.77678,	0.77778,	0.77878,	0.77978,	0.78078,	0.78178,	0.78278,	0.78378,	0.
78478,	0.78579,	0.78679,	0.78779,	0.78879,	0.78979,	0.79079,	0.79179,		,	•••••		***************************************	,	,	,	,	
00001	0.79279,	0.79379,	0.79479,	0.7958,	0.7968,	0.7978,	0.7988,	0.7998,	0.8008,	0.8018,	0.8028,	0.8038,	0.8048,	0.80581,	0.80681,	0.80781,	0.
80881,	0.80981, 0.81682,	0.81081, 0.81782,	0.81181, 0.81882,	0.81281, 0.81982,	0.81381, 0.82082,	0.81481, 0.82182,	0.81582, 0.82282,	0.82382,	0.82482,	0.82583,	0.82683,	0.82783,	0.82883,	0.82983,	0.83083,	0.83183,	0.
83283,	0.83383,	0.83483,	0.83584,	0.83684,	0.83784,	0.83884,	0.83984,						,	ŕ	,		
85686,	0.84084, 0.85786,	0.84184, 0.85886,	0.84284, 0.85986,	0.84384, 0.86086,	0.84484, 0.86186,	0.84585, 0.86286,	0.84685, 0.86386,	0.84785,	0.84885,	0.84985,	0.85085,	0.85185,	0.85285,	0.85385,	0.85485,	0.85586,	0.
63000,	0.86486,	0.86587,	0.86687,	0.86787,	0.86887,	0.86987,	0.87087,	0.87187,	0.87287,	0.87387,	0.87487,	0.87588,	0.87688,	0.87788,	0.87888,	0.87988,	0.
88088,	0.88188,	0.88288,	0.88388,	0.88488,	0.88589,	0.88689,	0.88789,										
0.9049,	0.88889, 0.90591,	0.88989, 0.90691,	0.89089, 0.90791,	0.89189, 0.90891,	0.89289, 0.90991,	0.89389, 0.91091,	0.89489, 0.91191,	0.8959,	0.8969,	0.8979,	0.8989,	0.8999,	0.9009,	0.9019,	0.9029,	0.9039,	
,	0.91291,	0.91391,	0.91491,	0.91592,	0.91692,	0.91792,	0.91892,	0.91992,	0.92092,	0.92192,	0.92292,	0.92392,	0.92492,	0.92593,	0.92693,	0.92793,	0.
92893,	0.92993,	0.93093, 0.93794,	0.93193,	0.93293, 0.93994,	0.93393, 0.94094,	0.93493,	0.93594,	0.04304	0.94494,	0.94595,	0.04605	0.04705	0.04005	0.04005	0.05005	0.05105	0
95295,	0.93694, 0.95395,	0.95495,	0.93894, 0.95596,	0.95696,	0.94094,	0.94194, 0.95896,	0.94294, 0.95996,	0.94394,	0.94494,	0.94595,	0.94695,	0.94795,	0.94895,	0.94995,	0.95095,	0.95195,	0.
	0.96096,	0.96196,	0.96296,	0.96396,	0.96496,	0.96597,	0.96697,	0.96797,	0.96897,	0.96997,	0.97097,	0.97197,	0.97297,	0.97397,	0.97497,	0.97598,	0.
97698,	0.97798, 0.98498,	0.97898, 0.98599,	0.97998, 0.98699,	0.98098, 0.98799,	0.98198, 0.98899,	0.98298, 0.98999,	0.98398, 0.99099,	0.99199,	0.99299,	0.99399,	0.99499,	0.996,	0.997,	0.998,	0.999,	11)	, arra
y([[0.27273,			0.49533,			0.57845,	0.58179,	0.5878,	0.59902,	0.61289,	0.62825,	0.63339,	0.64607,	0.66783,		0.673
36,	0.67612,					0.68478,	0 70006		0 70053	0.70000	0 7074	0 70000	0.74006		0.70643	0 70005	
0.73221,	0.68641, 0.73312	0.68803, , 0.73402,	0.70561, 0.73493,	0.7117, , 0.73584,	0.71109, 0.73674,	0.71047, 0.73765,	0.70986,	0.70925,	0.70863,	0.70802,	0.7074,	0.70908,	0.71986,	0.72299,	0.72613,	0.72926,	
	0.73855,	0.73946,	0.74036,	0.74127,	0.74217,	0.74308,	0.74398,	0.74489,	0.74689,	0.75074,	0.75459,	0.75844,	0.75947,	0.75973,	0.75999,	0.76025,	
0.76051,	0.76077 0.76235,	, 0.76104, 0.76261,	0.7613, 0.76287,	, 0.76156, 0.76313,	0.76182, 0.76339,	0.76208, 0.76366,	0.76392,	0.76418,	0.76444,	0.7647,	0.76497,	0.76523,	0.76549,	0.76575,	0.76601,	0.76628,	
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	0.76837,	0.76863,	0.7689,	0.76916,	0.76942,	0.76968,	0.76994,	0.7702,	0.77047,	0.77073,	0.77099,	0.77125,	0.77151,	0.77178,	0.77204,	0.7723,	
0.77256,	0.77282 0.77765,	, 0.77309, 0.77896,	0.77335, 0.78028,	, 0.77371, 0.78159,	0.77502, 0.78291,	0.77634, 0.78422,	0.78553,	0.78685,	0.78816,	0.78884,	0.78934,	0.78984,	0.79033,	0.79083,	0.79133,	0.79182,	
0.79232,	0.79282		0.79381,		0.7948,	0.7953,		,	,	,		,	,	,	-	***************************************	
0.80374,	0.7958, 0.80422	0.79629, , 0.80469,	0.79679, 0.80516,	0.79728, , 0.80563,	0.79778, 0.8061,	0.79828, 0.80657,	0.79877,	0.79927,	0.79977,	0.80026,	0.80076,	0.80126,	0.80175,	0.80225,	0.80275,	0.80324,	
0.00374,	0.80704,	0.80751,	0.80798,	0.80845,	0.80892,	0.80939,	0.80986,	0.81033,	0.8108,	0.81127,	0.81174,	0.81221,	0.81269,	0.81316,	0.81363,	0.8141,	
0.81457,			0.81598,		0.81692,	0.81739,											
0.81751,	0.81786, 0.81763	0.81833, , 0.81774,	0.8188, 0.81786,	0.81927, , 0.81797,	0.81974, 0.81809,	0.81858, 0.8182,	0.81636,	0.81648,	0.81659,	0.81671,	0.81682,	0.81694,	0.81705,	0.81717,	0.81728,	0.8174,	
,	0.81832,	0.81843,	0.81855,	0.81866,	0.81878,	0.81889,	0.81901,	0.81912,	0.81924,	0.81935,	0.81947,	0.81958,	0.8197,	0.81981,	0.81993,	0.82004,	
0.82016,	0.82027 0.82096,	, 0.82039, 0.82108,	0.8205, 0.8212,	, 0.82062, 0.82131,	0.82073, 0.82143,	0.82085, 0.82154,	0.82166,	0.82177,	0.82189,	0.822,	0.82212,	0.82223,	0.82235,	0.82246,	0.82258,	0.82269,	
0.82281,			0.82315,		0.82338,	0.8235,	0.02100,	0.021//,	0.02107,	0.022,	0.02212,	0.02223,	0.02255,	0.02240,	0.02230,	0.02203,	
	0.82361,	0.82373,	0.82384,	0.82396,	0.82407,	0.82419,	0.8243,	0.82442,	0.82453,	0.82465,	0.82476,	0.82488,	0.82499,	0.82511,	0.82522,	0.82534,	
0.82545,	0.82557 0.82626,	, 0.82569, 0.82638,	0.8258, 0.82649,	, 0.82592, 0.82661,	0.82603, 0.82672,	0.82615, 0.82684,	0.82695,	0.82707,	0.82718,	0.8273,	0.82741,	0.82753,	0.82764,	0.82776,	0.82787,	0.82799,	
0.8281,	0.82822,	0.82833,	0.82845,	0.82856,	0.82868,	0.82879,	0.02033,	0.02707,	0.02720,	0.0273,	0.027.12,	0.02755,	0102701,	0.02770,	0102707	0.02733,	
0.83075,	0.82891, 0.83087	0.82902,	0.82914,	0.82925,	0.82937,	0.82948,	0.8296,	0.82971,	0.82983,	0.82994,	0.83006,	0.83017,	0.83029,	0.83041,	0.83052,	0.83064,	
0.63075,	0.83156,	, 0.83098, 0.83167,	0.8311, 0.83179,	, 0.83121, 0.8319,	0.83133, 0.83202,	0.83144, 0.83213,	0.83225,	0.83236,	0.83248,	0.83259,	0.83271,	0.83282,	0.83294,	0.83305,	0.83317,	0.83328,	
0.83343,		, 0.83377,	0.83394,	, 0.83411,	0.83428,	0.83445,											
0.83735,	0.83462, 0.83752	0.83479, , 0.83769,	0.83496, 0.83786,	0.83514, , 0.83804,	0.83531, 0.83821,	0.83548, 0.83838,	0.83565,	0.83582,	0.83599,	0.83616,	0.83633,	0.8365,	0.83667,	0.83684,	0.83701,	0.83718,	
0.03733,	0.83855,	0.83872,	0.83889,	0.83906,	0.83923,	0.8394,	0.83957,	0.83974,	0.83991,	0.84008,	0.84025,	0.84042,	0.84059,	0.84076,	0.84094,	0.84111,	
0.84128,	0.84145		0.84179,		0.84213,	0.8423,		0.04255	0.04204	0.04404	0.04440	0.04435	0.04450	0.04450	0.04406	0.04500	
0.8452,	0.84247, 0.84537,	0.84264, 0.84554,	0.84281, 0.84571,	0.84298, 0.84588,	0.84315, 0.84605,	0.84332, 0.84622,	0.84349,	0.84366,	0.84384,	0.84401,	0.84418,	0.84435,	0.84452,	0.84469,	0.84486,	0.84503,	
	0.84639,	0.84656,	0.84673,	0.84691,	0.84708,	0.84725,	0.84742,	0.84759,	0.84776,	0.84793,	0.8481,	0.84827,	0.84844,	0.84861,	0.84878,	0.84895,	
0.84912,	0.84929 0.85032,	, 0.84946, 0.85049,	0.84963, 0.85066,	, 0.84981, 0.85083,	0.84998, 0.851,	0.85015, 0.85149,	0.85218,	0.85287,	0.85355,	0.85424,	0.85493,	0.85562,	0.8563,	0.85699,	0.85768,	0.85836,	
0.85905,			0.86111,		0.86249,	0.86318,	0.03210,	0.05207,	0.03333,	0.05424,	0.05455,	0.05502,	0.0303,	0.03033,	0.05700,	0.0000,	
0.0007	0.86386,	0.86455,	0.86524,	0.86593,	0.86661,	0.8673,	0.86799,	0.86868,	0.86936,	0.86927,	0.86886,	0.86844,	0.86803,	0.86761,	0.8672,	0.86678,	
0.86976,	0.87403 0.88609,	, 0.8783, 0.88601,	0.88257, 0.88592,	, 0.88635, 0.88583,	0.88627, 0.88575,	0.88618, 0.88566,	0.88558,	0.88549,	0.8854,	0.88532,	0.88523,	0.88514,	0.88506,	0.88497,	0.88488,	0.8848,	
0.88471,	0.88462	, 0.88454,	0.88445,	, 0.88436,	0.88428,	0.88419,											
0.89363,	0.8841, 0.89449	0.88402, , 0.89534,	0.88393, 0.8962,	0.88384, , 0.89706,	0.88376, 0.89791,	0.88421, 0.89877,	0.88506,	0.88592,	0.88678,	0.88763,	0.88849,	0.88935,	0.8902,	0.89106,	0.89192,	0.89277,	
,	0.89963,	0.90048,	0.90134,	0.9022,	0.90305,	0.90391,	0.90513,	0.927,	0.92727,	0.92754,	0.92781,	0.92808,	0.92835,	0.92862,	0.92889,	0.92916,	

0.02042	0.0207	0.02007	0.02024	0.02051	0.02070	0.02105											
0.92943,	0.9297, 0.93132,	0.92997, 0.93159,	0.93024, 0.93186,	0.93051, 0.93213,	0.93078, 0.9324,	0.93105, 0.93267,	0.93294,	0.93321,	0.93348,	0.93375,	0.93402,	0.93429,	0.93456,	0.93483,	0.9351,	0.93537,	
0.93563,	0.9359,	0.93617,	0.93644,	0.93671,	0.93698,	0.93725,	0.55254,	0.55521,	0.55546,	0.55575,	0.55402,	0.55425,	0.55450,	0.55405,	0.5551,	0.55557,	
,	0.93752,	0.93779,	0.93806,	0.93833,	0.9386,	0.93887,	0.93914,	0.93941,	0.93968,	0.93995,	0.94022,	0.94049,	0.94076,	0.94103,	0.9413,	0.94157,	
0.94184,	0.94211,	0.94238,	0.94265,	0.94292,	0.94319,	0.94346,	ŕ	,	ŕ	•	ŕ	ŕ	,	ŕ	•	,	
	0.94373,	0.944,	0.94427,	0.94454,	0.94481,	0.94508,	0.94535,	0.94562,	0.94589,	0.94616,	0.94643,	0.9467,	0.94697,	0.94724,	0.94751,	0.94778,	
0.94805,	0.94832,	0.94859,	0.94886,	0.94913,	0.9494,	0.94967,											
	0.94994,	0.95045,	0.95104,	0.95163,	0.95222,	0.95281,	0.9534,	0.95398,	0.95457,	0.95516,	0.95575,	0.95634,	0.95693,	0.95751,	0.9581,	0.95869,	
0.95928,	0.95987,	0.96046,	0.96105,	0.96163,	0.96222,	0.96281,											
	0.9634,	0.96399,	0.96458,	0.96516,	0.96575,	0.96634,	0.96693,	0.96752,	0.96811,	0.9687,	0.96928,	0.96987,	0.97046,	0.97105,	0.97164,	0.97223,	
0.97281,	0.9734,	0.97399,	0.97433,	0.97426,	0.97418,	0.97411,	0.07400	0.0750	0.07674	0.07761	0.07053	0.07043	0.00034	0.00125	0.00215	0.00206	
0.98397,	0.97403, 0.98488,	0.97396, 0.98578,	0.97388, 0.98669,	0.97381, 0.9876,	0.97373, 0.98851,	0.97398, 0.98942,	0.97489,	0.9758,	0.97671,	0.97761,	0.97852,	0.97943,	0.98034,	0.98125,	0.98215,	0.98306,	
0.56557,	0.99032,	0.99123,	0.99214,	0.99305,	0.99395,	0.99486,	0.99577,	0.99668,	0.99759,	0.99849,	0.9994,	1,	1,	1,	1,	1,	
1,	1,	1,	1,	1,	1,	1,	0.555,	0.33000,	0.55755,	0,330.3,	0.555.,	-,	-,	-,	-,	-,	
•	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	
1,	1,	1,	1,	1,	1,	1,											
	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	
1,	1,	1,	1,	1,	1,	1,											
_	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	
1,	1,	1,	1,	1,	1,	1,	1	1	1	1	1	1	1	1	1	1	
1,	1,	1,	1, 1,	1,	1, 1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	
1,	1, 1,	1, 1,	1,	1, 1,	1,	1, 1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	
1,	1,	1,	1,	1,	1,	1,	-,	-,	-,	-,	-,	-,	-,	-,	-,	-,	
-	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	
1,	1,	1,	1,	1,	1,	1,											
	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	
1,	1,	1,	1,	1,	1,	1,	_	_	_		_		_	_		_	
1	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	
1,	1,	1,	1,	1,	1,	1,	1	1	1	1	1	1	1	1	1,	1	
1,	1, 1,	1, 1,	1, 1,	1, 1,	1, 1,	1, 1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	
-,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	
1,	1,	1,	1,	1,	1,	1,		-		-			-		-		
	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	
1,	1,	1,	1,	1,	1,	1,											
_	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	
1,	1,	1,	1,	1,	1,	1,	1	1	1	1	1111	'Confidence	' 'Donneisia	n'] [annau/[0	0.001001	0
002002,	1, 0.003003,	1, 0.004004,	1, 0.005005,	1, 0.006006,	1, 0.007007,	1, 0.008008,	1, 0.009009,	1, 0.01001,	1, 0.011011,	1, 0.012012,	1]]) 0.013013,	0.014014,	0.015015,	n'], [array([0.016016,	0, 0.017017,	0.001001, 0.018018,	0. 0.
019019,	0.02002,	0.021021,	0.022022,	0.023023,	0.007007,	0.008008,	0.005005,	0.01001,	0.011011,	0.012012,	0.013013,	0.014014,	0.013013,	0.010010,	0.01/01/,	0.010010,	٥.
013013,	0.024024,	0.025025,	0.026026,	0.027027,	0.028028,	0.029029,	0.03003,	0.031031,	0.032032,	0.033033,	0.034034,	0.035035,	0.036036,	0.037037,	0.038038,	0.039039,	0.
04004,	0.041041,	0.042042,	0.043043,	0.044044,	0.045045,	0.046046,	0.047047,	,	,	,	,	,	,	,	,	,	
	0.048048,	0.049049,	0.05005,	0.051051,	0.052052,	0.053053,	0.054054,	0.055055,	0.056056,	0.057057,	0.058058,	0.059059,	0.06006,	0.061061,	0.062062,	0.063063,	0.0
64064,	0.065065,	0.066066,	0.067067,	0.068068,	0.069069,	0.07007,	0.071071,										
	0.072072,	0.073073,	0.074074,	0.075075,	0.076076,	0.077077,	0.078078,	0.079079,	0.08008,	0.081081,	0.082082,	0.083083,	0.084084,	0.085085,	0.086086,	0.087087,	0.0
88088,	0.089089,	0.09009,	0.091091,	0.092092,	0.093093,	0.094094,	0.095095,	0.1031	0 1041	0.40544	0 10611	0 10711	0 10011	0.10011	0 11011	0 44444	0
11211	0.096096,	0.097097,	0.098098,	0.099099,	0.1001,	0.1011,	0.1021,	0.1031,	0.1041,	0.10511,	0.10611,	0.10711,	0.10811,	0.10911,	0.11011,	0.11111,	0.
11211,	0.11311, 0.12012,	0.11411, 0.12112,	0.11512, 0.12212,	0.11612, 0.12312,	0.11712, 0.12412,	0.11812, 0.12513,	0.11912, 0.12613,	0.12713,	0.12813,	0.12913,	0.13013,	0.13113,	0.13213,	0.13313,	0.13413,	0.13514,	0.
13614,	0.13714,	0.13814,	0.13914,	0.14014,	0.14114,	0.14214,	0.14314,	0.12/15,	0.12015,	0.12515,	0.13013,	0.15115,	0.13213,	0.15515,	0.15415,	0.15514,	٠.
,	0.14414,	0.14515,	0.14615,	0.14715,	0.14815,	0.14915,	0.15015,	0.15115,	0.15215,	0.15315,	0.15415,	0.15516,	0.15616,	0.15716,	0.15816,	0.15916,	0.
16016,	0.16116,	0.16216,	0.16316,	0.16416,	0.16517,	0.16617,	0.16717,										
	0.16817,	0.16917,	0.17017,	0.17117,	0.17217,	0.17317,	0.17417,	0.17518,	0.17618,	0.17718,	0.17818,	0.17918,	0.18018,	0.18118,	0.18218,	0.18318,	0.
18418,	0.18519,	0.18619,	0.18719,	0.18819,	0.18919,	0.19019,	0.19119,										
20024		0.19319,	0.19419,	0.1952,	0.1962,	0.1972,	0.1982,	0.1992,	0.2002,	0.2012,	0.2022,	0.2032,	0.2042,	0.20521,	0.20621,	0.20721,	0.
	0.19219,	-		-		0 21424											0.
20821,	0.20921,	0.21021,	0.21121,	0.21221,	0.21321,	0.21421,	0.21522,	0 22322	0 22422	0 22523	0 22623	0 22723	0 22823	0 22023	0 23023	A 22122	
•	0.20921, 0.21622,	0.21021, 0.21722,	0.21121, 0.21822,	0.21221, 0.21922,	0.21321, 0.22022,	0.22122,	0.22222,	0.22322,	0.22422,	0.22523,	0.22623,	0.22723,	0.22823,	0.22923,	0.23023,	0.23123,	٠.
23223,	0.20921, 0.21622, 0.23323,	0.21021, 0.21722, 0.23423,	0.21121, 0.21822, 0.23524,	0.21221, 0.21922, 0.23624,	0.21321, 0.22022, 0.23724,	0.22122, 0.23824,	0.22222, 0.23924,										
•	0.20921, 0.21622,	0.21021, 0.21722,	0.21121, 0.21822,	0.21221, 0.21922,	0.21321, 0.22022,	0.22122,	0.22222,	0.22322, 0.24725,	0.22422, 0.24825,	0.22523, 0.24925,	0.22623, 0.25025,	0.22723, 0.25125,	0.22823,0.25225,	0.22923, 0.25325,	0.23023, 0.25425,	0.23123, 0.25526,	0.
23223,	0.20921, 0.21622, 0.23323, 0.24024,	0.21021, 0.21722, 0.23423, 0.24124,	0.21121, 0.21822, 0.23524, 0.24224,	0.21221, 0.21922, 0.23624, 0.24324,	0.21321, 0.22022, 0.23724, 0.24424,	0.22122, 0.23824, 0.24525,	0.22222, 0.23924, 0.24625,										
23223,	0.20921, 0.21622, 0.23323, 0.24024, 0.25726, 0.26426, 0.28128,	0.21021, 0.21722, 0.23423, 0.24124, 0.25826, 0.26527, 0.28228,	0.21121, 0.21822, 0.23524, 0.24224, 0.25926,	0.21221, 0.21922, 0.23624, 0.24324, 0.26026,	0.21321, 0.22022, 0.23724, 0.24424, 0.26126,	0.22122, 0.23824, 0.24525, 0.26226,	0.22222, 0.23924, 0.24625, 0.26326, 0.27027, 0.28729,	0.24725,	0.24825,	0.24925,	0.25025,	0.25125,	0.25225,	0.25325,	0.25425, 0.27828,	0.25526,	0.
23223, 25626, 28028,	0.20921, 0.21622, 0.23323, 0.24024, 0.25726, 0.26426, 0.28128, 0.28829,	0.21021, 0.21722, 0.23423, 0.24124, 0.25826, 0.26527, 0.28228, 0.28929,	0.21121, 0.21822, 0.23524, 0.24224, 0.25926, 0.26627, 0.28328, 0.29029,	0.21221, 0.21922, 0.23624, 0.24324, 0.26026, 0.26727, 0.28428, 0.29129,	0.21321, 0.22022, 0.23724, 0.24424, 0.26126, 0.26827, 0.28529, 0.29229,	0.22122, 0.23824, 0.24525, 0.26226, 0.26927, 0.28629, 0.29329,	0.22222, 0.23924, 0.24625, 0.26326, 0.27027, 0.28729, 0.29429,	0.24725,	0.24825,	0.24925,	0.25025,	0.25125,	0.25225,	0.25325,	0.25425,	0.25526,	0.
23223, 25626,	0.20921, 0.21622, 0.23323, 0.24024, 0.25726, 0.26426, 0.28128, 0.30531,	0.21021, 0.21722, 0.23423, 0.24124, 0.25826, 0.26527, 0.28228, 0.28929, 0.30631,	0.21121, 0.21822, 0.23524, 0.24224, 0.25926, 0.26627, 0.28328, 0.29029, 0.30731,	0.21221, 0.21922, 0.23624, 0.24324, 0.26026, 0.26727, 0.28428, 0.29129, 0.30831,	0.21321, 0.22022, 0.23724, 0.24424, 0.26126, 0.26827, 0.28529, 0.30931,	0.22122, 0.23824, 0.24525, 0.26226, 0.26927, 0.28629, 0.29329, 0.31031,	0.22222, 0.23924, 0.24625, 0.26326, 0.27027, 0.28729, 0.29429, 0.31131,	0.24725, 0.27127, 0.2953,	0.24825, 0.27227, 0.2963,	0.24925,0.27327,0.2973,	0.25025, 0.27427, 0.2983,	0.25125,0.27528,0.2993,	0.25225, 0.27628, 0.3003,	0.25325,0.27728,0.3013,	0.25425, 0.27828, 0.3023,	0.25526,0.27928,0.3033,	0. 0.
23223, 25626, 28028,	0.20921, 0.21622, 0.23323, 0.24024, 0.25726, 0.26426, 0.28128, 0.28829,	0.21021, 0.21722, 0.23423, 0.24124, 0.25826, 0.26527, 0.28228, 0.28929,	0.21121, 0.21822, 0.23524, 0.24224, 0.25926, 0.26627, 0.28328, 0.29029,	0.21221, 0.21922, 0.23624, 0.24324, 0.26026, 0.26727, 0.28428, 0.29129,	0.21321, 0.22022, 0.23724, 0.24424, 0.26126, 0.26827, 0.28529, 0.29229,	0.22122, 0.23824, 0.24525, 0.26226, 0.26927, 0.28629, 0.29329,	0.22222, 0.23924, 0.24625, 0.26326, 0.27027, 0.28729, 0.29429,	0.24725, 0.27127,	0.24825, 0.27227,	0.24925, 0.27327,	0.25025, 0.27427,	0.25125, 0.27528,	0.25225, 0.27628,	0.25325, 0.27728,	0.25425, 0.27828,	0.25526, 0.27928,	0.

		0.33634,	0.33734,	0.33834,	0.33934,	0.34034,	0.34134,	0.34234,	0.34334,	0.34434,	0.34535,	0.34635,	0.34735,	0.34835,	0.34935,	0.35035,	0.35135,	0.
352	235,	0.35335, 0.36036,	0.35435, 0.36136,	0.35536, 0.36236,	0.35636, 0.36336,	0.35736, 0.36436,	0.35836, 0.36537,	0.35936, 0.36637,	0.36737,	0.36837,	0.36937,	0.37037,	0.37137,	0.37237,	0.37337,	0.37437,	0.37538,	0.
376	538,	0.37738,	0.37838,	0.37938,	0.38038,	0.38138,	0.38238,	0.38338,										
0.4	1004,	0.38438, 0.4014,	0.38539, 0.4024,	0.38639, 0.4034,	0.38739, 0.4044,	0.38839, 0.40541,	0.38939, 0.40641,	0.39039, 0.40741,	0.39139,	0.39239,	0.39339,	0.39439,	0.3954,	0.3964,	0.3974,	0.3984,	0.3994,	
0.4	4004,	0.4014,	0.4024,	0.4034,	0.41141,	0.41241,	0.41341,	0.41441,	0.41542,	0.41642,	0.41742,	0.41842,	0.41942,	0.42042,	0.42142,	0.42242,	0.42342,	0.
424	142,	0.42543,	0.42643,	0.42743,	0.42843,	0.42943,	0.43043,	0.43143,										
448	845,	0.43243, 0.44945,	0.43343, 0.45045,	0.43443, 0.45145,	0.43544, 0.45245,	0.43644, 0.45345,	0.43744, 0.45445,	0.43844, 0.45546,	0.43944,	0.44044,	0.44144,	0.44244,	0.44344,	0.44444,	0.44545,	0.44645,	0.44745,	0.
440	343,	0.45646,	0.45746,	0.45846,	0.45946,	0.46046,	0.46146,	0.46246,	0.46346,	0.46446,	0.46547,	0.46647,	0.46747,	0.46847,	0.46947,	0.47047,	0.47147,	0.
472	247,	0.47347,	0.47447,	0.47548,	0.47648,	0.47748,	0.47848,	0.47948,	0 40740		0.40040		0 40440	0.40040	0 40240		0 4055	
0.4	4965,	0.48048, 0.4975,	0.48148, 0.4985,	0.48248, 0.4995,	0.48348, 0.5005,	0.48448, 0.5015,	0.48549, 0.5025,	0.48649, 0.5035,	0.48749,	0.48849,	0.48949,	0.49049,	0.49149,	0.49249,	0.49349,	0.49449,	0.4955,	
	,	0.5045,	0.50551,	0.50651,	0.50751,	0.50851,	0.50951,	0.51051,	0.51151,	0.51251,	0.51351,	0.51451,	0.51552,	0.51652,	0.51752,	0.51852,	0.51952,	0.
520	052,	0.52152, 0.52853,	0.52252, 0.52953,	0.52352, 0.53053,	0.52452, 0.53153,	0.52553, 0.53253,	0.52653, 0.53353,	0.52753, 0.53453,	0.53554,	0.53654,	0.53754,	0.53854,	0.53954,	0.54054,	0.54154,	0.54254,	0.54354,	0.
544	454,	0.54555,	0.54655,	0.54755,	0.54855,	0.54955,	0.55055,	0.55155,	0.33334,	0.33034,	0.33734,	0.55654,	0.33534,	0.54054,	0.34134,	0.34234,	0.34334,	٥.
		0.55255,	0.55355,	0.55455,	0.55556,	0.55656,	0.55756,	0.55856,	0.55956,	0.56056,	0.56156,	0.56256,	0.56356,	0.56456,	0.56557,	0.56657,	0.56757,	0.
568	857,	0.56957, 0.57658,	0.57057, 0.57758,	0.57157, 0.57858,	0.57257, 0.57958,	0.57357, 0.58058,	0.57457, 0.58158,	0.57558, 0.58258,	0.58358,	0.58458,	0.58559,	0.58659,	0.58759,	0.58859,	0.58959,	0.59059,	0.59159,	0.
592	259,	0.59359,	0.59459,	0.5956,	0.5966,	0.5976,	0.5986,	0.5996,	0.50550,	0.30430,	0.30333,	0.30033,	0.30733,	0.30033,	0.50555,	0.55055,	0.55155,	٠.
616		0.6006,	0.6016,	0.6026,	0.6036,	0.6046,	0.60561,	0.60661,	0.60761,	0.60861,	0.60961,	0.61061,	0.61161,	0.61261,	0.61361,	0.61461,	0.61562,	0.
616	562,	0.61762, 0.62462,	0.61862, 0.62563,	0.61962, 0.62663,	0.62062, 0.62763,	0.62162, 0.62863,	0.62262, 0.62963,	0.62362, 0.63063,	0.63163,	0.63263,	0.63363,	0.63463,	0.63564,	0.63664,	0.63764,	0.63864,	0.63964,	0.
640	964,	0.64164,	0.64264,	0.64364,	0.64464,	0.64565,	0.64665,	0.64765,										
664	466,	0.64865, 0.66567,	0.64965, 0.66667,	0.65065, 0.66767,	0.65165, 0.66867,	0.65265, 0.66967,	0.65365, 0.67067,	0.65465, 0.67167,	0.65566,	0.65666,	0.65766,	0.65866,	0.65966,	0.66066,	0.66166,	0.66266,	0.66366,	0.
004	+00,	0.67267,	0.67367,	0.67467,	0.67568,	0.67668,	0.67768,	0.67868,	0.67968,	0.68068,	0.68168,	0.68268,	0.68368,	0.68468,	0.68569,	0.68669,	0.68769,	0.
688	869,	0.68969,	0.69069,	0.69169,	0.69269,	0.69369,	0.69469,	0.6957,										_
712	271.	0.6967, 0.71371,	0.6977, 0.71471,	0.6987, 0.71572,	0.6997, 0.71672,	0.7007, 0.71772,	0.7017, 0.71872,	0.7027, 0.71972,	0.7037,	0.7047,	0.70571,	0.70671,	0.70771,	0.70871,	0.70971,	0.71071,	0.71171,	0.
	,	0.72072,	0.72172,	0.72272,	0.72372,	0.72472,	0.72573,	0.72673,	0.72773,	0.72873,	0.72973,	0.73073,	0.73173,	0.73273,	0.73373,	0.73473,	0.73574,	0.
736	574,	0.73774,	0.73874,	0.73974,	0.74074,	0.74174,	0.74274,	0.74374,	0 75175	0 75775	0 75275	0 75475	0 75576	0 75676	0 75776	0 75076	0 75076	0
760	076,	0.74474, 0.76176,	0.74575, 0.76276,	0.74675, 0.76376,	0.74775, 0.76476,	0.74875, 0.76577,	0.74975, 0.76677,	0.75075, 0.76777,	0.75175,	0.75275,	0.75375,	0.75475,	0.75576,	0.75676,	0.75776,	0.75876,	0.75976,	0.
		0.76877,	0.76977,	0.77077,	0.77177,	0.77277,	0.77377,	0.77477,	0.77578,	0.77678,	0.77778,	0.77878,	0.77978,	0.78078,	0.78178,	0.78278,	0.78378,	0.
784	478,	0.78579, 0.79279,	0.78679, 0.79379,	0.78779, 0.79479,	0.78879, 0.7958,	0.78979, 0.7968,	0.79079, 0.7978,	0.79179, 0.7988,	0.7998,	0.8008,	0.8018,	0.8028,	0.8038,	0.8048,	0.80581,	0.80681,	0.80781,	0.
808	881,	0.80981,	0.81081,	0.81181,	0.81281,	0.81381,	0.81481,	0.81582,	0.7550,	0.0000,	0.0010,	0.0020,	0.0050,	0.0040,	0.00501,	0.00001,	0.00701,	٠.
022	202	0.81682,	0.81782,	0.81882,	0.81982,	0.82082,	0.82182,	0.82282,	0.82382,	0.82482,	0.82583,	0.82683,	0.82783,	0.82883,	0.82983,	0.83083,	0.83183,	0.
832	283,	0.83383, 0.84084,	0.83483, 0.84184,	0.83584, 0.84284,	0.83684, 0.84384,	0.83784, 0.84484,	0.83884, 0.84585,	0.83984, 0.84685,	0.84785,	0.84885,	0.84985,	0.85085,	0.85185,	0.85285,	0.85385,	0.85485,	0.85586,	0.
856	586,	0.85786,	0.85886,	0.85986,	0.86086,	0.86186,	0.86286,	0.86386,										
880	988,	0.86486, 0.88188,	0.86587, 0.88288,	0.86687, 0.88388,	0.86787, 0.88488,	0.86887, 0.88589,	0.86987, 0.88689,	0.87087, 0.88789,	0.87187,	0.87287,	0.87387,	0.87487,	0.87588,	0.87688,	0.87788,	0.87888,	0.87988,	0.
000	,	0.88889,	0.88989,	0.89089,	0.89189,	0.89289,	0.89389,	0.89489,	0.8959,	0.8969,	0.8979,	0.8989,	0.8999,	0.9009,	0.9019,	0.9029,	0.9039,	
0.9	9049,	0.90591,	0.90691,	0.90791,	0.90891,	0.90991,	0.91091,	0.91191,	0.04000		0.004.00		0.00000	0.00400	0.00500	0.00500		
928	893,	0.91291, 0.92993,	0.91391, 0.93093,	0.91491, 0.93193,	0.91592, 0.93293,	0.91692, 0.93393,	0.91792, 0.93493,	0.91892, 0.93594,	0.91992,	0.92092,	0.92192,	0.92292,	0.92392,	0.92492,	0.92593,	0.92693,	0.92793,	0.
		0.93694,	0.93794,	0.93894,	0.93994,	0.94094,	0.94194,	0.94294,	0.94394,	0.94494,	0.94595,	0.94695,	0.94795,	0.94895,	0.94995,	0.95095,	0.95195,	0.
952	295,	0.95395, 0.96096,	0.95495, 0.96196,	0.95596, 0.96296,	0.95696, 0.96396,	0.95796, 0.96496,	0.95896, 0.96597,	0.95996, 0.96697,	0.96797,	0.96897,	0.96997,	0.97097,	0.97197,	0.97297,	0.97397,	0.97497,	0.97598,	0.
976	598,	0.97798,	0.97898,	0.97998,	0.98098,	0.98198,	0.98298,	0.98398,	0.50757,	0.50857,	0.30337,	0.57057,	0.5/15/,	0.37237,	0.57557,	0.57457,	0.57556,	0.
,,		0.98498,	0.98599,	0.98699,	0.98799,	0.98899,	0.98999,	0.99099,	0.99199,	0.99299,	0.99399,	0.99499,	0.996,	0.997,	0.998,	0.999,), arra
y([55,			0.95455, 0.95455,	0.95455, 0.95455,	0.95455, 0.95455,		0.95455, 0.95455,	0.95455,	0.95455,	0.95455,	0.95455,	0.95455,	0.95455,	0.95455,	0.95455,	0.95455,	0.95455,	0.954
		0.95455,	0.95455,	0.95455,	0.9538,	0.95099,	0.94818,	0.94537,	0.94256,	0.93975,	0.93694,	0.93413,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	,
0.9	93182,	0.93182, 0.93182,	0.93182, 0.93182,	, 0.93182 0.93182,		, 0.93182, 0.93182,	0.93182 0.93182,		0.93182,	a 02102	a 02102	0 02102	A 02102	0 02102	a 02102	0.93182,	0.93182,	
0.9	93182,	0.93182,						0.93182,	0.93162,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93162,	0.93102,	•
		0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	,
0.9	93182,	0.93182, 0.93182,	0.93182, 0.93182,	, 0.93182 0.93182,		, 0.93182, 0.93182,	0.93182 0.93182,	, 0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	
0.9	93182,	0.93182,	0.93182	, 0.93182	0.93182	, 0.93182,	0.93182	,										
9.0	93182,	0.93182, 0.93182,	0.93182, 0.93182	0.93182, 0.93182	0.93182, 0.93182	0.93182, , 0.93182,	0.93182, 0.93182	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	,
0.5	,,,,,,,	0.93182,	0.93182,	0.93182,		0.93182,	0.93182,	, 0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	,

0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,											
	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	
0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,	0.93182,			0.00000								
0.90909,	0.93182, 0.90909,	0.93182, 0.90909,	0.93182, 0.90909,	0.93182, 0.90909,	0.93182, 0.90909,	0.92304, 0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	
0.50505,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	
0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.50505,	0.50505,	0.30303,	0.50505,	0.50505,	0.20202,	0.30303,	0.50505,	0.50505,	0.50505,	
	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	
0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,											
	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	
0.90909,	0.90909, 0.90909,	0.90909, 0.90909,	0.90909, 0.90909,	0.90909, 0.90909,	0.90909, 0.90909,	0.90909, 0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	
0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.50505,	0.50505,	0.30303,	0.50505,	0.50505,	0.20202,	0.30303,	0.50505,	0.50505,	0.30303,	
	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	
0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,											
0.00000	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	
0.90909,	0.90909, 0.90909,	0.90909, 0.90909,	0.90909, 0.90909,	0.90909, 0.90909,	0.90909, 0.90909,	0.90909, 0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	
0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.50505,	0.50505,	0.50505,	0.50505,	0.50505,	0.50505,	0.50505,	0.50505,	0.50505,	0.50505,	
•	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	
0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,											
0.00000	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	
0.90909,	0.90909, 0.90909,	0.90909, 0.90909,	0.90909, 0.90909,	0.90909, 0.90909,	0.90909, 0.90909,	0.90909, 0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	
0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.50505,	0.30303,	0.30303,	0.50505,	0.50505,	0.20202,	0.30303,	0.50505,	0.50505,	0.50505,	
	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	
0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,											
0.88636,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.90909,	0.9068,	0.90354,	0.90028,	0.89703,	0.89377,	0.89052,	0.88726,	
0.00030,	0.88636, 0.88405,	0.88636, 0.8833,	0.88636, 0.88256,	0.88628, 0.88182,	0.88554, 0.88107,	0.88479, 0.88033,	0.87958,	0.87884,	0.8781,	0.87735,	0.87661,	0.87586,	0.87512,	0.87437,	0.87363,	0.87289,	
0.87214,	0.8714,	0.87065,	0.86991,	0.86917,	0.86842,	0.86768,	,	,	,	,	,	,	,	,	,	,	
	0.86693,	0.86619,	0.86545,	0.8647,	0.86396,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	
0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.05354	0.05254	0.06364	0.05354	0.05254	0.05354	0.05254	0.05354	0.05354	0.05354	
0.86364,	0.86364, 0.86364,	0.86364, 0.86364,	0.86364, 0.86364,	0.86364, 0.86364,	0.86364, 0.86364,	0.86364, 0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	
0.00504,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	
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0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.86364,	0.96364	0.06364	0.00264	0.96364	0.00264	0.00264	0.06364	0.86364	0.96364	0.00264	
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0.86364,	0.86364, 0.85264,	0.86364,	0.86269,	0.86018,	0.85767,	0.85516,	0 94001	0.84091,	0 94001	0 94001	0.84091,	0 94001	0.84091,	0 94001	0 94001	0 94001	
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,	0.84091,	0.84091,	0.84091,	0.84091,	0.84091,	0.84091,	0.84091,	0.84091,	0.84091,	0.84091,	0.84091,	0.83681,	0.82478,	0.81781,	0.81697,	0.81614,	
0.81531,	0.81448,	0.81364,	0.81281,	0.81198,	0.81115,	0.81031,											
0.70617	0.80948,	0.80865,	0.80782,	0.80699,	0.80615,	0.80532,	0.80449,	0.80366,	0.80282,	0.80199,	0.80116,	0.80033,	0.79949,	0.79866,	0.79783,	0.797,	
0.79617,	0.79503, 0.77733,	0.79208, 0.77438,	0.78913, 0.77196,	0.78618, 0.77024,	0.78323, 0.76851,	0.78028, 0.76678,	0.76505,	0.76332,	0.7616,	0.75987,	0.75814,	0.75641,	0.75468,	0.75296,	0.75123,	0.74799,	
0.74105,	0.7341,	0.72726,	0.72635,	0.72544,	0.72453,	0.72362,	,	,	,	,	,	,	,	,	,	,	
	0.72271,	0.72181,	0.7209,	0.71999,	0.71908,	0.71817,	0.71726,	0.71635,	0.71545,	0.71454,	0.71363,	0.71272,	0.71181,	0.7109,	0.70999,	0.70909,	
0.70818,	0.70727,	0.70636,	0.70545,	0.70449,	0.68438,	0.68018,											
0.65161,	0.67829, 0.65032,	0.67641, 0.64903,	0.67453, 0.64774,	0.67265, 0.64645,	0.67077, 0.64516,	0.66889, 0.64387,	0.66701,	0.66513,	0.66324,	0.66136,	0.65948,	0.65807,	0.65678,	0.65549,	0.65419,	0.6529,	
0.05101,	0.64257,	0.64128,	0.63999,	0.6387,	0.63741,	0.63559,	0.63151,	0.62743,	0.62334,	0.61926,	0.61518,	0.60992,	0.60395,	0.59798,	0.59201,	0.58627,	
0.58058,	0.57489,	0.5692,	0.5651,	0.56134,	0.55758,	0.55383,	ŕ	ŕ		ŕ	ŕ		ŕ		ŕ	ŕ	
	0.55007,	0.54632,	0.53796,	0.52823,	0.52015,	0.51421,	0.50828,	0.50234,	0.49248,	0.48006,	0.46708,	0.45391,	0.44035,	0.42625,	0.41126,	0.3363,	
0.32165,	0.31362,	0.30764,	0.30166,	0.29568,	0.29151,	0.28742,	0 10034	0 17026	0 16711	0 15036	0 15530	0 15353	0 14064	0 14677	0 1430	0 14103	
0.13815,	0.28332, 0.13352,	0.27923, 0.12603,	0.27514, 0.11853,	0.25787, 0.1127,	0.23576, 0.10998,	0.19995, 0.10727,	0.18924,	0.17836,	0.16711,	0.15826,	0.15539,	0.15252,	0.14964,	0.14677,	0.1439,	0.14102,	
,	0.10456,	0.10185,	0.099135,	0.096423,	0.093711,	0.090999,	0.065666,	0.063064,	0.060462,	0.05786,	0.055257,	0.052655,	0.050053,	0.047451,	0.043869,	0.037054,	0.
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```
0,
                                                                                                                                                            0]]), 'Confidence', 'Recall']]
                                                                                                                     0,
                                                                                                                                 0,
                                                                                                                                              0,
         fitness: 0.5945190545287014
         keys: ['metrics/precision(B)', 'metrics/recall(B)', 'metrics/mAP50(B)', 'metrics/mAP50-95(B)']
         maps: array([ 0.55564])
         names: {0: 'license plate'}
         plot: True
         results_dict: {'metrics/precision(B)': 0.9681071891700327, 'metrics/recall(B)': 0.8636363636363636, 'metrics/mAP50(B)': 0.9444430446978715, 'metrics/mAP50-95(B)': 0.5556386111765713, 'fitness': 0.5945190545287014}
         save_dir: WindowsPath('runs/detect/train19')
         speed: {'preprocess': 0.6023320284756748, 'inference': 16.895288770849056, 'loss': 0.0, 'postprocess': 0.24994394995949484}
         task: 'detect'
In [55]: # Find the most recent training Log directory
         log_dir = max(glob('runs/detect/train*'), key = the_number_in_the_string)
         # Load the training results
         results = pd.read_csv(os.path.join(log_dir, 'results.csv'))
         results.columns = results.columns.str.strip() # Remove any Leading/trailing whitespace from column names
         # Extract epochs and accuracy metrics
         epochs = results.index + 1 # Epochs are zero-indexed, so add 1
         mAP 0 5 = results['metrics/mAP50(B)'] # Mean Average Precision at IoU=0.5
         mAP 0 5 0 95 = results['metrics/mAP50-95(B)'] # Mean Average Precision at IoU=0.5:0.95
         # Plot the accuracy over epochs
         plt.figure(figsize=(10, 5))
         plt.plot(epochs, mAP 0 5, label='mAP@0.5')
         plt.plot(epochs, mAP_0_5_0_95, label='mAP@0.5:0.95')
         plt.xlabel('Epoch')
         plt.ylabel('Accuracy')
         plt.title('Accuracy Over Epochs')
         plt.legend()
         plt.grid(True)
         plt.show()
```



7/15/24, 9:20 AM

```
In [57]: # Save the trained model
model.save('best_numberplatedetection.pt')
```

ANPR

Testing the model

```
In [60]: def run(path_test_car):
             Predicts and plots the bounding boxes on the given test image using the trained YOLO model.
             Also performs OCR on the detected bounding boxes to extract text.a
             # Perform prediction on the test image using the model
             results = model.predict(path test car, device='cpu')
             # Load the image using OpenCV
             image = cv2.imread(path_test_car)
             # Convert the image from BGR (OpenCV default) to RGB (matplotlib default)
            image = cv2.cvtColor(image, cv2.COLOR BGR2RGB)
             # Extract the bounding boxes and labels from the results
             for result in results:
                 for box in result.boxes:
                    # Get the coordinates of the bounding box
                     x1, y1, x2, y2 = map(int, box.xyxy[0])
                     # Get the confidence score of the prediction
                     confidence = box.conf[0]
                     # Draw the bounding box on the image
                     cv2.rectangle(image, (x1, y1), (x2, y2), (0, 255, 0), 2)
                     # Draw the confidence score near the bounding box
                     cv2.putText(image, f'{confidence*100:.2f}%', (x1, y1 - 10),
                                 cv2.FONT_HERSHEY_SIMPLEX, 0.9, (255, 0, 0), 2)
                     # Crop the bounding box from the image for OCR
                     roi = image[y1:y2, x1:x2]
             # Plot the image with bounding boxes
             plt.imshow(image)
             plt.axis('off') # Hide the axis
             plt.show() # Display the image
In [62]: print(test)
```

	img_path	xmin	xmax	ymin	ymax	img_w	img_h
425	archive\images\Cars425.png	211	301	103	132	500	232
75	archive\images\Cars75.png	209	218	196	201	400	248
181	archive\images\Cars181.png	69	128	195	209	225	400
30	archive\images\Cars30.png	155	200	169	182	400	240
364	archive\images\Cars364.png	61	115	140	167	400	242
408	archive\images\Cars408.png	160	187	217	228	400	267
253	archive\images\Cars253.png	25	64	124	137	400	210
155	archive\images\Cars155.png	150	203	177	190	400	267
168	archive\images\Cars168.png	82	137	95	125	400	225
415	archive\images\Cars415.png	133	261	157	192	400	300
152	archive\images\Cars152.png	92	199	258	284	467	300
70	archive\images\Cars70.png	179	213	115	133	400	226
203	archive\images\Cars203.png	116	271	112	165	400	267
335	archive\images\Cars335.png	156	221	163	198	399	400
39	archive\images\Cars39.png	225	328	180	213	400	300
395	archive\images\Cars395.png	241	288	182	205	400	301
274	archive\images\Cars274.png	196	253	149	169	400	300
72	archive\images\Cars72.png	156	255	182	208	400	332
9	archive\images\Cars9.png	164	272	224	247	442	333
281	archive\images\Cars281.png	151	243	169	183	400	247
287	archive\images\Cars287.png	148	262	180	213	400	332
362	archive\images\Cars362.png	139	162	172	179	400	300
353	archive\images\Cars353.png	93	201	189	221	400	246
55	archive\images\Cars55.png	143	210	171	208	400	299
289	archive\images\Cars289.png	163	271	140	173	400	307
198	archive\images\Cars198.png	166	273	225	246	442	333
148	archive\images\Cars148.png	135	218	134	158	400	225
392	archive\images\Cars392.png	144	260	150	209	400	262
341	archive\images\Cars341.png	47	115	161	192	400	267
268	archive\images\Cars268.png	213	271	133	168	300	225
126	archive\images\Cars126.png	103	293	99	201	400	300
400	archive\images\Cars400.png	303	340	191	217	400	267
305	archive\images\Cars305.png	361	434	167	183	450	270
93	archive\images\Cars93.png	347	367	122	132	400	251
428	archive\images\Cars428.png	142	258	128	157	400	225
77	archive\images\Cars77.png	229	309	151	178	400	270
298	archive\images\Cars298.png	166	233	148	184	400	268
140	archive\images\Cars140.png	283	424	239	286	435	290
323	archive\images\Cars323.png	123	279	28	65	400	225
429	archive\images\Cars429.png	86	208	166	195	301	400
225	archive\images\Cars225.png	189	384	161	215	600	375
154	archive\images\Cars154.png	70	264	197	265	375	500
78	archive\images\Cars78.png	149	249	210	239	400	300
73	archive\images\Cars73.png	119	283	22	69	400	225

In [66]: run(test.iloc[12].img_path)

image 1/1 C:\Documents\Intel Unnati\Final\archive\images\Cars203.png: 224x320 1 license_plate, 58.6ms
Speed: 0.0ms preprocess, 58.6ms inference, 0.0ms postprocess per image at shape (1, 3, 224, 320)



In [68]: run(test.iloc[20].img_path)

image 1/1 C:\Documents\Intel Unnati\Final\archive\images\Cars287.png: 288x320 1 license_plate, 41.9ms
Speed: 0.0ms preprocess, 41.9ms inference, 1.0ms postprocess per image at shape (1, 3, 288, 320)



In [70]: run(test.iloc[25].img_path)

image 1/1 C:\Documents\Intel Unnati\Final\archive\images\Cars198.png: 256x320 1 license_plate, 40.8ms
Speed: 0.0ms preprocess, 40.8ms inference, 0.0ms postprocess per image at shape (1, 3, 256, 320)



In [72]: run(test.iloc[30].img_path)

image 1/1 C:\Documents\Intel Unnati\Final\archive\images\Cars126.png: 256x320 1 license_plate, 29.5ms Speed: 1.0ms preprocess, 29.5ms inference, 1.0ms postprocess per image at shape (1, 3, 256, 320)

