```
In [1]:
         import numpy as np
         import pandas as pd
         from PIL import Image
         import matplotlib.pyplot as plt
         import cv2
         import time
         from datetime import datetime
         import torch
         import torch.nn as nn
         import torchvision
         import albumentations as A
         from albumentations.pytorch import ToTensorV2
         import pytesseract
         from io import StringIO
         from model import TableNet
In [2]:
         pytesseract.pytesseract.tesseract_cmd = r'C:/Program Files/Tesseract-OCR/tesseract.exe'
In [3]:
         TRANSFORM = A.Compose([
                         #ToTensor --> Normalize(mean, std)
                         A.Normalize(
                             mean=[0.485, 0.456, 0.406],
                             std=[0.229, 0.224, 0.225],
                             max pixel_value = 255,
                         ),
                         ToTensorV2()
             ])
In [4]:
         model = TableNet(encoder = 'densenet', use pretrained model = True, basemodel requires grad = True)
         model.eval()
         #Load checkpoint
         model.load_state_dict(torch.load("densenet_config_4_model_checkpoint.pth.tar")['state_dict'])
        <all keys matched successfully>
Out[4]:
In [7]:
         def predict(img path):
             orig_image = Image.open(img_path).resize((1024, 1024))
             test_img = np.array(orig_image.convert('LA').convert("RGB"))
             now = datetime.now()
             image = TRANSFORM(image = test_img)["image"]
             with torch.no grad():
                 image = image.unsqueeze(0)
                 #with torch.cuda.amp.autocast():
                 table_out, _ = model(image)
                 table out = torch.sigmoid(table out)
             #remove gradients
             table_out = (table_out.detach().numpy().squeeze(0).transpose(1,2,0) > 0.5).astype(np.uint8)
             #get contours of the mask to get number of tables
             contours, table_heirarchy = cv2.findContours(table_out, cv2.RETR_EXTERNAL, cv2.CHAIN_APPROX_NONE)
             table contours = []
             #ref: https://www.pyimagesearch.com/2015/02/09/removing-contours-image-using-python-opency/
             #remove bad contours
             for c in contours:
                 if cv2.contourArea(c) > 3000:
                     table contours.append(c)
             if len(table_contours) == 0:
                 print("No Table detected")
             table_boundRect = [None]*len(table_contours)
             for i, c in enumerate(table_contours):
                 polygon = cv2.approxPolyDP(c, 3, True)
                 table_boundRect[i] = cv2.boundingRect(polygon)
             #table bounding Box
             table_boundRect.sort()
             orig_image = np.array(orig_image)
             #draw bounding boxes
             color = (0,0,255)
             thickness = 4
             for x,y,w,h in table_boundRect:
                 cv2.rectangle(orig_image, (x,y),(x+w,y+h), color, thickness)
             plt.figure(figsize = (20,10))
             plt.imshow(orig_image)
             plt.show()
             end_time = datetime.now()
             difference = end_time - now
             #print("Total Time : {} seconds".format(difference))
             time = "{}".format(difference)
             print(f"Time Taken on cpu : {time} secs")
             print("Predicted Tables")
             image = test_img[...,0].reshape(1024, 1024).astype(np.uint8)
             for i,(x,y,w,h) in enumerate(table_boundRect):
                 image_crop = image[y:y+h,x:x+w]
                 data = pytesseract.image_to_string(image_crop)
                 try:
                     df = pd.read csv(StringIO(data),sep=r'\\',lineterminator=r'\n',engine='python')
                     print(f" ## Table {i+1}")
                     df = pd.read_csv(StringIO(data),sep=r'\|',lineterminator=r'\n',engine='python')
                     print(df)
                 except pd.errors.ParserError:
                         df = pd.read_csv(StringIO(data),delim_whitespace=True,lineterminator=r'\n',engine='python')
                         print(f" ## Table {i+1}")
                          print(df)
                     except pd.errors.ParserError:
                          print(f" ## Table {i+1}")
                         print(df)
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In [8]: prodict(img path = 1 /mapmet processed/image/10.1.1.190 FF2.10 ing!)
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predict(img_path = '../marmot_processed/image/10.1.1.180.553_10.jpg')
    0
                          These restrictions on pseudoephedrine-based pharmaceuticals were introduced nationally, so
                          it would be expected that they should have a similar impact across all jurisdictions. However,
                          when examining the jurisdictional breakdown (see Table 2) most jurisdictions have noted an
                          increase in clandestine laboratory numbers. In contrast, the Northern Territory reported a
                          42 percent decrease in clandestine laboratory detections in 2005-06. However, it should be
                          noted that there was a significant increase in the number of detections in 2004-05, which may
 200
                          partly explain the large decrease this reporting period.
                          Queensland, which has dominated the clandestine laboratory figures since 1997-98, has also
                          reported a significant decrease in the number of laboratories detected in 2005-06 (a decrease
                          of 23 percent). This decrease may be partly credited to the introduction of Project STOP by the
                          Pharmacy Guild of Australia in Queensland in October 2006. Project STOP is a real-time online
                          recording system which allows pharmacists to determine if a customer has recently purchased
                          (or been denied sale of) pseudoephedrine-based pharmaceuticals at other pharmacies. This
                          allows the pharmacist to make an informed decision regarding the sale of the products. Initially
                          trialled in Queensland, Project STOP will be implemented throughout the country as part of the
                          National Strategy to Prevent the Diversion of Precursor Chemicals into Illicit Drug Manufacture
                          (Pharmacy Guild of Australia, 2006).
 400
                            1997-98
                                                                                                                     95
                            1999-200
                                                                                                                     150
                           2000-01
                                                                                                                    201
                           2001-02
                                                                                                                    252
                            2002-03
 600
                            2003-04
                                                                  189
                                                                                                                    358
                                                                                                                     381
                            2004-05
                                                                   209
                              number of seizures recorded, a
some way to reversing this jud
 800
                                                       ILLICIT DRUG DATA REPORT 2005-06
                                                                        18
1000
                               200
                                                         400
                                                                                   600
                                                                                                             800
                                                                                                                                     1000
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Time Taken on cpu : 0:00:29.167146 secs
Predicted Tables
 ## Table 1
   Nsw Vie Lo SA WA Tas NT act Total
         1996-97" = = = = = = - Pa
        1997-98 19 9 95 7 3 2 ° ° 95
     1998-99 20 4 83 12 8 ° 2 2 434
2
  1999-2000 20 18 79 4 v7 ° 1 1 150
      2000-01 42 32 7 24 2 1 3 ° 201
  2001-02 32 2a 138 32 2 3 1 ° 252
5
   2002-03 a7 19 71 34 26 2 3 2 214
    2003-04 6 20 189 48 23 1 6 ° 358
     2004-05 45 a 209 25 a 21 3 381
8
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2005-06 55 a7 161 50 58 12 2 390