**Lab Assignment 10: Pdf reading creation and editing**

Analyse You are working for a company that sells products online. Your task is to develop a Python program that reads order data from a CSV file, generates individual PDF invoices for each order, and then merges all the PDF invoices into a single PDF file.

1. Load Order Data: The program should read order data from a CSV file named "orders.csv." Each row in the CSV file represents an order with the following information:
   1. Order ID (a unique alphanumeric code)
   2. Customer Name
   3. Product Name
   4. Quantity
   5. Unit Price
2. Calculate Total Amount: For each order, calculate the total amount by multiplying the quantity with the unit price

Generate PDF Invoices: Create individual PDF invoices for each order. Each invoice should contain the following details:

* 1. Invoice Number (same as the Order ID)
  2. Date of Purchase (current date)
  3. Customer Name
  4. Product Name
  5. Quantity
  6. Unit Price
  7. Total Amount

Code –

import pandas as pd

from fpdf import FPDF

from PyPDF2 import PdfMerger

from datetime import datetime

import os

# Step 1: Load order data from the CSV file

def load\_order\_data(csv\_file):

    try:

        # Reading the CSV file using pandas

        return pd.read\_csv(csv\_file)

    except FileNotFoundError:

        print(f"Error: The file '{csv\_file}' was not found.")

        return None

# Step 2: Create PDF invoice for each order

def generate\_invoice(order, output\_dir):

    # Extract order details

    order\_id = order['Order ID']

    customer\_name = order['Customer Name']

    product\_name = order['Product Name']

    quantity = order['Quantity']

    unit\_price = order['Unit Price']

    total\_amount = quantity \* unit\_price

    date\_of\_purchase = datetime.now().strftime("%Y-%m-%d")

    # Initialize FPDF and create PDF document

    pdf = FPDF()

    pdf.add\_page()

    # Set title and add text to the PDF

    pdf.set\_font("Arial", size=12)

    # Invoice Header

    pdf.cell(200, 10, txt=f"Invoice: {order\_id}", ln=True, align="C")

    pdf.cell(200, 10, txt=f"Date: {date\_of\_purchase}", ln=True, align="C")

    pdf.ln(10)

    # Customer Details

    pdf.cell(200, 10, txt=f"Customer Name: {customer\_name}", ln=True, align="L")

    pdf.cell(200, 10, txt=f"Product: {product\_name}", ln=True, align="L")

    # Order Details

    pdf.cell(200, 10, txt=f"Quantity: {quantity}", ln=True, align="L")

    pdf.cell(200, 10, txt=f"Unit Price: ${unit\_price}", ln=True, align="L")

    pdf.cell(200, 10, txt=f"Total Amount: ${total\_amount:.2f}", ln=True, align="L")

    # Save the PDF file

    output\_file = os.path.join(output\_dir, f"invoice\_{order\_id}.pdf")

    pdf.output(output\_file)

    return output\_file

# Step 3: Merge all invoices into a single PDF

def merge\_invoices(pdf\_files, output\_file):

    merger = PdfMerger()

    for pdf in pdf\_files:

        merger.append(pdf)

    # Write the merged PDF to a file

    merger.write(output\_file)

    merger.close()

def main():

    # Path to the CSV file containing order data

    csv\_file = "D:/5th Lab/Python/Lab 10/orders.csv"

    # Directory where invoices will be generated

    output\_dir = "invoices"

    os.makedirs(output\_dir, exist\_ok=True)

    # Load the order data from the CSV

    orders = load\_order\_data(csv\_file)

    if orders is not None:

        pdf\_files = []

        # Iterate through each order and generate invoices

        for index, order in orders.iterrows():

            pdf\_file = generate\_invoice(order, output\_dir)

            pdf\_files.append(pdf\_file)

        # Merge the generated invoices into a single PDF file

        merged\_output\_file = "merged\_invoices.pdf"

        merge\_invoices(pdf\_files, merged\_output\_file)

        print(f"Merged invoices saved to '{merged\_output\_file}'.")

if \_\_name\_\_ == "\_\_main\_\_":

    main()

Output –



