

## Objective:

Develop a programmatic way of generating an invoice for orders placed on an e-commerce platform. The invoice format and structure should match the invoice in [this image](#) (to the extent possible).

## Requirements:

- There needs to be a placeholder for the company logo.
- Assume that the below can be taken as **input parameters**:
  - **Seller Details**: Name, Address, (City, State, Pincode), PAN No., GST Registration No.
  - Place of Supply
  - **Billing Details**: Name, Address, (City, State, Pincode), State/UT Code
  - **Shipping Details**: Name, Address, (City, State, Pincode), State/UT Code
  - Place of Delivery
  - **Order Details**: Order No., Order Date
  - **Invoice Details**: Invoice No., Invoice Details, Invoice Date
  - Reverse Charge: Yes/No
  - **Item Details** - List of items in the order with each item in the below format (see table in the invoice):
    - Description
    - Unit Price
    - Quantity
    - Discount
    - Net Amount (to be derived as Unit Price \* Quantity - Discount)
    - Tax Rate: (18% in the example below)
  - Signature image
- You will need to compute/derive the below parameters:
  - **Item Details**:
    - **Net Amount**: Unit Price \* Quantity - Discount
    - **Tax Type**: If Place of Supply = Place of Delivery, then Tax Type should be broken down as CGST & SGST at 9% each (18% / 2). Else Tax Type should be a single component as IGST at 18%.
    - **Tax Amount**: Net Amount \* Tax Rate (2 separate components in case of CGST/SGST; a single component in case of IGST).
    - **Total Amount**: Net Amount + Tax Amount
  - Total row
  - Amount in words
- The signature image needs to be inserted as shown in the invoice image:
  - For <Seller Name>:  
<Insert Signature>  
Authorised Signatory

## Suggested implementation approaches:

- *Most preferred*: You can use [Zoho's API](#) for creating the invoice in the required format. Ensure that we are able to generate the invoice in PDF format as well.
- *Open-source*: Similarly, you can also use [Invoice Ninja API](#), an open-source invoicing software.
- *Custom approach*: You can also construct an HTML file that will match the required invoice format, which can accommodate the inputs and the derived parameters.

## Deliverables:

- Program of generating invoices as described above in a language of your choice.
- Clear and concise documentation explaining the program's implementation and usage.

**Optional notes to consider:**

- Handle situations where discount is not provided for an item.
- Validate all input parameters and handle potential errors gracefully.
- Designed for performance and scalability to handle a large volume of orders.
- The program should be platform-agnostic and readily deployable.