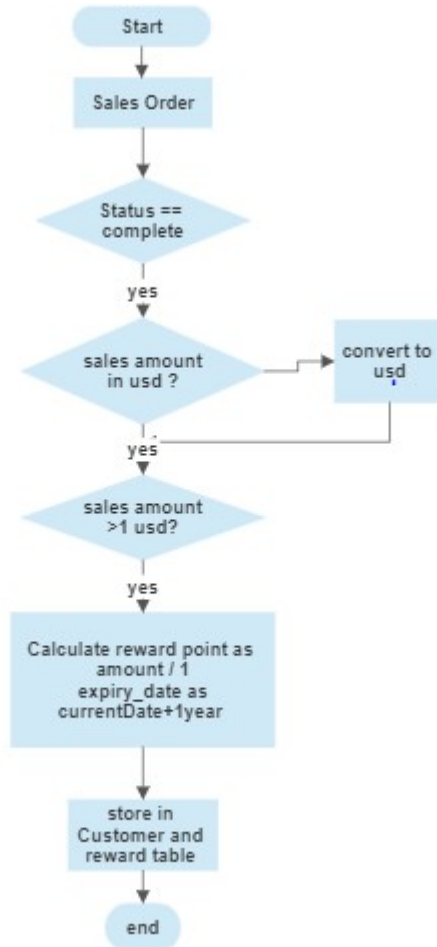


Q-1

Flowchart



Mysql schema

Sales Order table

id	sales_id	customer_id	order_status	sales_amount
----	----------	-------------	--------------	--------------

Customer table

id	customer_name	reward_id
----	---------------	-----------

Rewards table

id	reward_points	expiry_date
----	---------------	-------------

```

<?php

...
..

function calculateRewardPoints($salesAmount, $currency)
{
    if ($currency !== 'USD') {

        $usdAmount = convertToUsd($salesAmount); //
    } else {
        $usdAmount = $salesAmount;
    }

    $rewardPoints = floor($usdAmount);

    return $rewardPoints;
}

function creditRewardPoints($customerId, $rewardPoints)
{
    $expiryDate = date('Y-m-d', strtotime('+1 year'));
    $connection = ...;

    $stmt = $connection->prepare("INSERT INTO RewardPoints (customer_id, reward_points,
expiry_date) VALUES (?, ?, ?)");
    $stmt->bind_param("iis", $customerId, $reward_points, $expiry_date);
    $stmt->execute();

    $stmt->close();
    $connection->close();
}

$orderSalesAmount = 100;
$customerCurrency = 'USD';
$customerId = 1;
$rewardPoints = calculateRewardPoints($orderSalesAmount, $customerCurrency);

creditRewardPoints($customerId, $rewardPoints);

?>

```

2. Based on the given tables, write a SINGLE query to retrieve the total order and sales amount of all the orders. Your output should display Number_Of_Order, Total_Sales_Amount

Orders Table

Order_ID	Order_Date	Sales_Type
1001	2007-05-01 12:10:10	Normal
1002	2007-05-07 05:28:55	Normal
1003	2007-05-19 17:17:00	Promotion
1004	2007-05-22 22:47:16	Promotion
1005	2007-05-27 08:15:07	Promotion
1006	2007-06-01 06:35:59	Normal

Orders_Products Table

Order_Product_ID	Order_ID	Item_Name	Normal_Price	Promotion_Price
2000	1001	Radio	800.00	712.99
2001	1002	Portable Audio	16.00	15.00
2002	1002	THE SIMS	9.99	8.79
2003	1003	Radio	800.00	712.99
2004	1004	Scanner	124.00	120.00
2005	1005	Portable Audio	16.00	15.00
2006	1005	Radio	800.00	712.99
2007	1006	Camcorders	359.00	303.00
2008	1006	Radio	800.00	712.99

```
SELECT COUNT(Order_ID) AS Number_Of_Order, SUM(Normal_Price) + SUM(Promotion_Price)
AS Total_Sales_Amount
FROM Orders
JOIN Orders_Products ON Orders.Order_ID = Orders_Products.Order_ID;
```

Q-3

3. Order total MYR5.00 has included 6% GST, what is the actual amount of GST in MYR for this Order?

We know,

GST amount = (Original cost x GST%)/100

Net price = original cost + GST amount

here,

Net Price = 5.00

GST = 6%

so $5.00 = \text{original cost} + (\text{original cost} \times 6)/100$
 $5.00 = (100\text{original cost} + 6\text{original cost})/100$
 $5.00 \times 100 = 106 \text{ original cost}$
 $5.00 \times 100 / 106 = \text{original cost}$

original cost = MYR 4.71698113208

gst cost = MYR0.28301886792

Q-4

on routes/api.php

```
Route::get('products', ['uses' => 'ProductController@products']);
```

URL: /api/products

HTTP Method: GET

URL: /api/products?page=1&perPage=10

URL: /api/products?category=electronics

URL: /api/products?sort=category

URL: /api/products?sort[by]=name&sort[sort]=ASC

```
public function products($limit = null, $filter = [], $sort = ['by' => 'id', 'sort' => 'DESC'], $status = [0, 1])
{
    $user = auth()->guard('api')->user();

    try {
        $data = Product::where('status', '=', 0)->when(array_keys($filter, true), function ($query) use ($filter) {

            if (isset($filter['category'])) {
                $query->where('category', '=', $filter['category']);
            }
        }->orderBy($sort['by'], $sort['sort'])->paginate($limit ? $limit : env('DEF_PAGE_LIMIT', 9999));

    } catch (\Throwable $t) {
        $data['error'] = true;
        $data['message'] = "Something went wrong";
        $data['status_code'] = Response::HTTP_INTERNAL_SERVER_ERROR;
    }

    return response()->json($data, $data['status_code']);
}
```

This is my practice in Laravel

Q-5

```
function howMany($sentence) {  
  
    $cleaned_sentence = preg_replace('/^[^w\s-]/', '', $sentence);  
    $words = preg_split('/\s+/', $cleaned_sentence);  
    $word_count = count($words);  
  
    return $word_count;  
}  
$sentence = "Apple is so scarce nowadays, isn't it? I had to walk an hour to get a half-dozen.";  
$word_count = howMany($sentence);  
echo "Number of words: " . $word_count;
```