**PHP**

**“SHORTEST WORD”**

function shortestWord($inputString) {

// Split the input string into words

$words = explode(' ', $inputString);

// Initialize the shortest length with the maximum possible integer value

$shortestWord = PHP\_INT\_MAX;

// Iterate through the words to find the shortest length

foreach ($words as $word) {

$wordLength = strlen($word);

if ($wordLength < $shortestWord) {

$shortestWord = $wordLength;

}

}

return $shortestWord;

}

// Output

$inputString = "TRUE FRIENDS ARE ME AND YOU";

$shortest = shortestWord($inputString);

echo "BECAUSE THE SHORTEST WORD IS" . $shortest;

**“COUNT THE ISLANDS”**

function countTheIslands($matrix) {

// Replace 1 with 'x' and 0 with '~'

for ($i = 0; $i < count($matrix); $i++) {

for ($j = 0; $j < count($matrix[$i]); $j++) {

if ($matrix[$i][$j] === 1) {

$matrix[$i][$j] = 'x';

} else if ($matrix[$i][$j] === 0) {

$matrix[$i][$j] = '~';

}

}

}

return $matrix;

}

$matrix = [

[1,1,1,1]

[0,1,1,0]

[0,1,0,1]

[1,1,0,0]

];

$islands = countTheIslands($matrix);

// Print the modified matrix

foreach ($islands as $row) {

echo implode(' ', $row) . "\n";

}

**“WORD SEARCH”**

function wordSearch($array, $targetWord) {

$indices = [];

foreach ($array as $index => $word) {

if ($word === $targetWord) {

$indices[] = $index;

}

}

if (!empty($indices)) {

return $indices;

} else {

return -1; // Return -1 if the word is not found in the array

}

}

// Output

$wordArray = ["I", "TWO", "FORTY", "THREE", "JEN", "TWO", "tWo", "Two"];

$target = "TWO";

$index = wordSearch($wordArray, $target);

if ($index !== -1) {

echo "The target word '$target' is found at INDEX " . implode(" AND ", $indices);

} else {

echo "The target word '$target' is not found in the array.";

}

**MYSQL:**

**Based on the data given:**

1. **Display total number of albums sold per artist**

**SELECT**

**artist AS Artist,**

**COUNT( album ) AS Album\_Sold**

**FROM**

**tblalbumsales**

**GROUP BY**

**Artist**

1. **Display combined album sales per artist**

**SELECT**

**artist AS Artist,**

**SUM( sales ) AS Total\_Sales**

**FROM**

**tblalbumsales**

**GROUP BY**

**artist**

1. **Display the top 1 artist who sold most combined album sales**

**SELECT**

**artist AS Artist,**

**SUM( sales ) AS Total\_Sales**

**FROM**

**tblalbumsales**

**GROUP BY**

**artist**

**ORDER BY**

**Total\_Sales DESC**

**LIMIT 1**

1. **Display the top 10 albums per year based on their number of sales**

**SELECT artist, album, sales, date\_released, last\_update**

**FROM (**

**SELECT**

**artist,**

**album,**

**sales,**

**date\_released,**

**last\_update,**

**@row\_number := IF(@current\_year = YEAR(date\_released), @row\_number + 1, 1) AS row\_number,**

**@current\_year := YEAR(date\_released)**

**FROM (SELECT @row\_number := 0, @current\_year := NULL) vars, tblalbumsales**

**ORDER BY YEAR(date\_released), sales DESC**

**) AS subquery**

**WHERE row\_number <= 10;**

1. **Display list of albums based on the searched artist**

**SELECT**

**artist as Artist,**

**album as Album,**

**sales as Sales**

**FROM**

**tblalbumsales**

**WHERE**

**artist = 'Enhypen'**

**LARAVEL**

**<?php**

**namespace App;**

**use Illuminate\Database\Eloquent\Model;**

**class practice\_model extends Model**

**{**

**protected $table = 'tblalbumsales';**

**#Artist**

**public function readArtistDetails($data,$id){**

**$artist = DB::table('tblalbumsales')**

**->select('tblalbumsales.id','tblalbumsales.artist')**

**->where('id', $id);**

**return $artist->get();**

**}**

**public function updateArtistDetails($data,$id){**

**$artist = DB::table('tblalbumsales')**

**->where('id', $id)**

**->update([**

**'artist' => $data[]['artist']**

**]);**

**return $artist;**

**}**

**public function deleteArtistDetails($data,$id){**

**$artist = DB::table('tblalbumsales')**

**->where('id', $id)->delete();**

**return $artist;**

**}**

**#Albums**

**public function readAlbumsDetails($data,$album){**

**$albums = DB::table('tblalbumsales')**

**->select('tblalbumsales.date\_released','tblalbumsales.artist','tblalbumsales.sales')**

**->where('album', $album);**

**return $albums->get();**

**}**

**public function updateAlbumsDetails($data,$album){**

**$albums = DB::table('tblalbumsales')**

**->where('album', $album)**

**->update([**

**'album' => $data[0]['album']**

**]);**

**return $albums**

**}**

**public function deleteAlbumsDetails($data,$album){**

**$albums = DB::table('tblalbumsales')**

**->where('album', $album)->delete();**

**return $albums;**

**}**

**}**