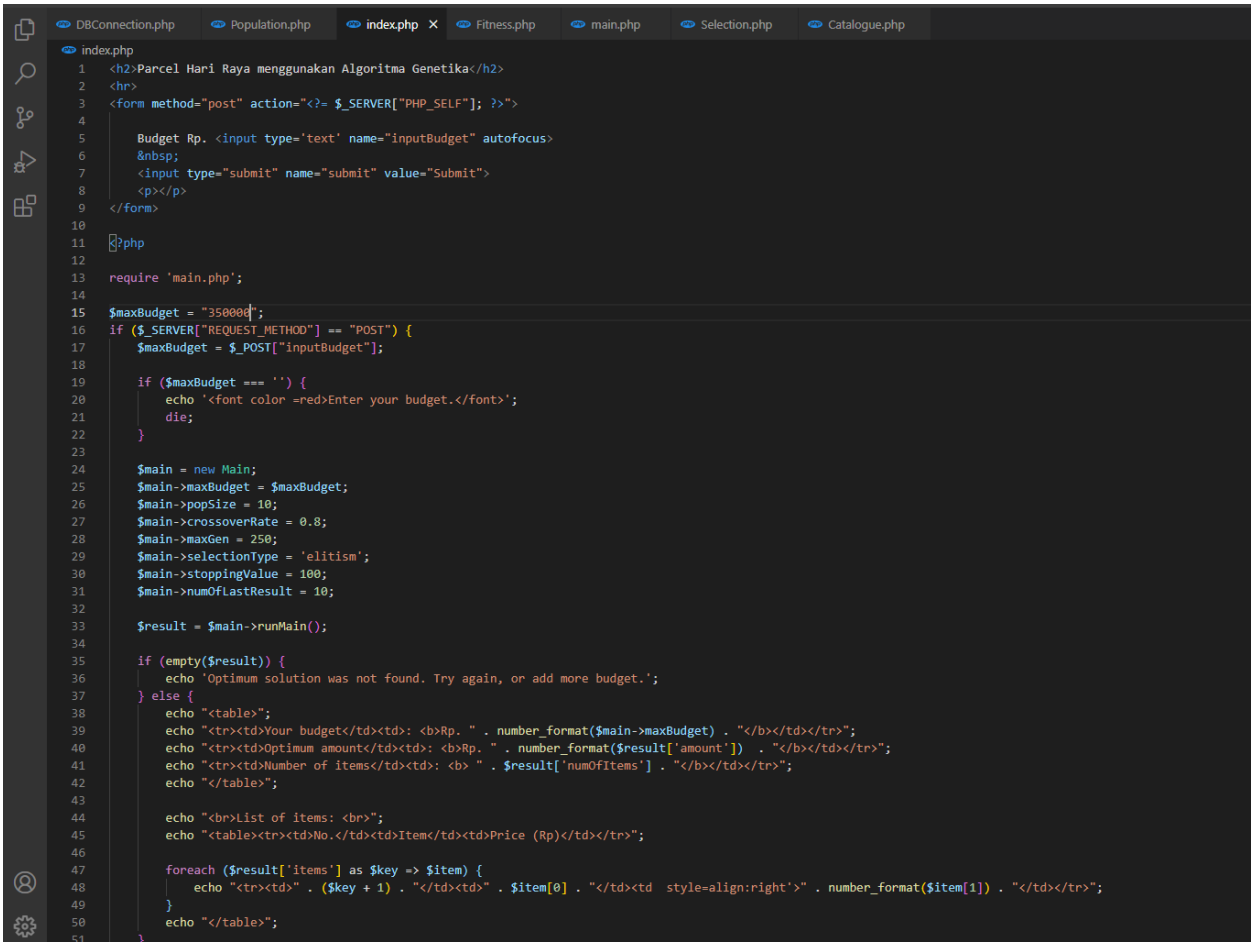

DBConnection.php
Population.php
index.php
Fitness.php
main.php
Selection.php
Catalogue.php
index.php
<h2>Parcel Hari Raya menggunakan Algoritma Genetika</h2>
<hr>
<form method="post" action="<?= $_SERVER["PHP_SELF"]; ?>">
Budget Rp. <input type='text' name="inputBudget" autofocus>

<input type="submit" name="submit" value="Submit">

</form>
<?php
require 'main.php';
$maxBudget = "350000";
if ($_SERVER["REQUEST_METHOD"] == "POST") {
$maxBudget = $_POST["inputBudget"];
if ($maxBudget === '') {
echo '<font color =red>Enter your budget.</font>';
die;
}
$main = new Main;
$main->maxBudget = $maxBudget;
$main->popSize = 10;
$main->crossoverRate = 0.8;
$main->maxGen = 250;
$main->selectionType = 'elitism';
$main->stoppingValue = 100;
$main->numOfLastResult = 10;
$result = $main->runMain();
if (empty($result)) {
echo 'Optimum solution was not found. Try again, or add more budget.';
} else {
echo "<table>";
echo "<tr><td>Your budget</td><td>: Rp. " . number_format($main->maxBudget) . "</td></tr>";
echo "<tr><td>Optimum amount</td><td>: Rp. " . number_format($result['amount']) . "</td></tr>";
echo "<tr><td>Number of items</td><td>: " . $result['numOfItems'] . "</td></tr>";
echo "</table>";
echo "
List of items:
";
echo "<table><tr><td>No.</td><td>Item</td><td>Price (Rp)</td></tr>";
foreach ($result['items'] as $key => $item) {
echo "<tr><td>" . ($key + 1) . "</td><td>" . $item[0] . "</td><td style=align:right'>" . number_format($item[1]) . "</td></tr>";
}
echo "</table>";

DBConnection.php | Population.php | index.php | Fitness.php | main.php | Selection.php | Catalogue.php

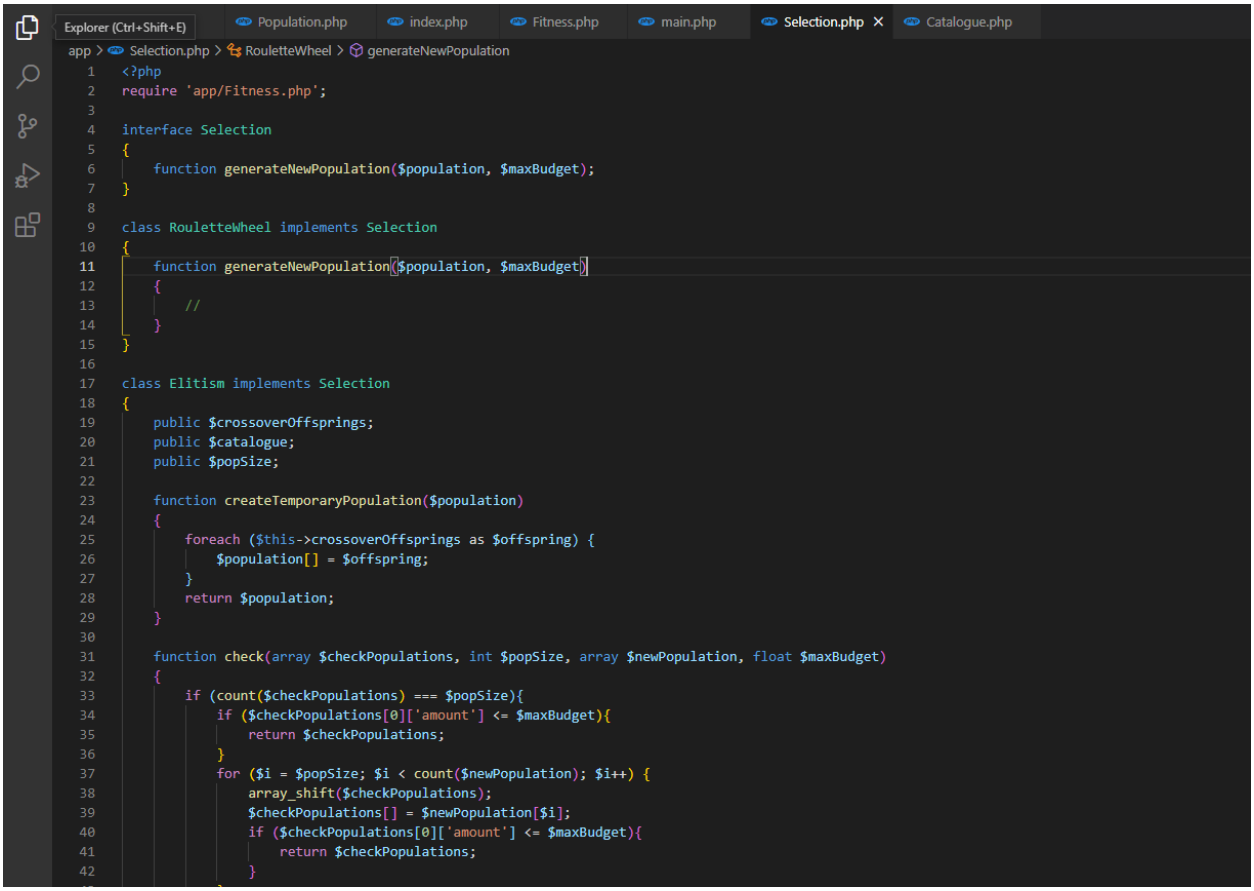
main.php > Main > runMain

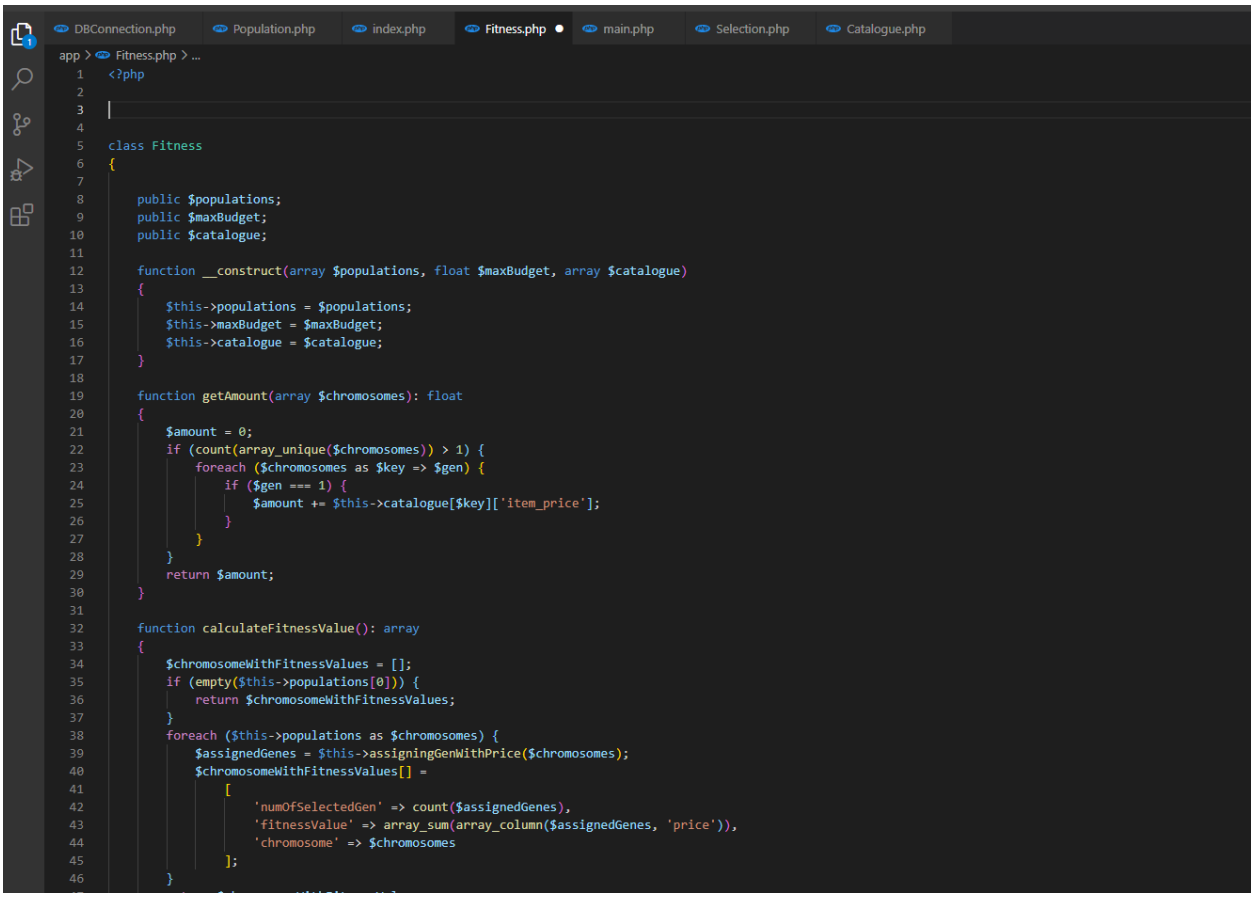
```php
<?php
require 'app/Catalogue.php';
require 'app/Population.php';
require 'app/Selection.php';
require 'app/Crossover.php';
require 'app/Mutation.php';
require 'utils/analytics.php';
class Main
{
    public $popSize;
    public $maxGen;
    public $maxBudget;
    public $crossoverRate;
    public $selectionType;
    public $stoppingValue;
    public $numOfLastResult;

    function runMain()
    {
        $catalogue = new Catalogue;
        $population = new InitialPopulation;
        $numOfGen = count($catalogue->getAllProducts());

        $cutPointIndex = rand(0, $numOfGen - 1);
        $populations = $population->generatePopulation($this->popSize, $catalogue->getAllProducts(), $numOfGen);

        $crossoverOffsprings = [];
        $filtereds = [];

        $selection = new SelectionFactory;
        $analytics = new Analytics;

        for ($i = 0; $i < $this->maxGen; $i++){
            $crossover = new Crossover($this->popSize, $this->crossoverRate, $populations, $catalogue->getAllProducts(), $cutPointIndex, $numOfGen);
            $crossoverOffsprings = $crossover->runCrossover($populations);

            $mutation = new Mutation;
            $mutation->numOfGen = $numOfGen;
```

DBConnection.php | Population.php | index.php | Fitness.php | main.php | Selection.php | Catalogue.php

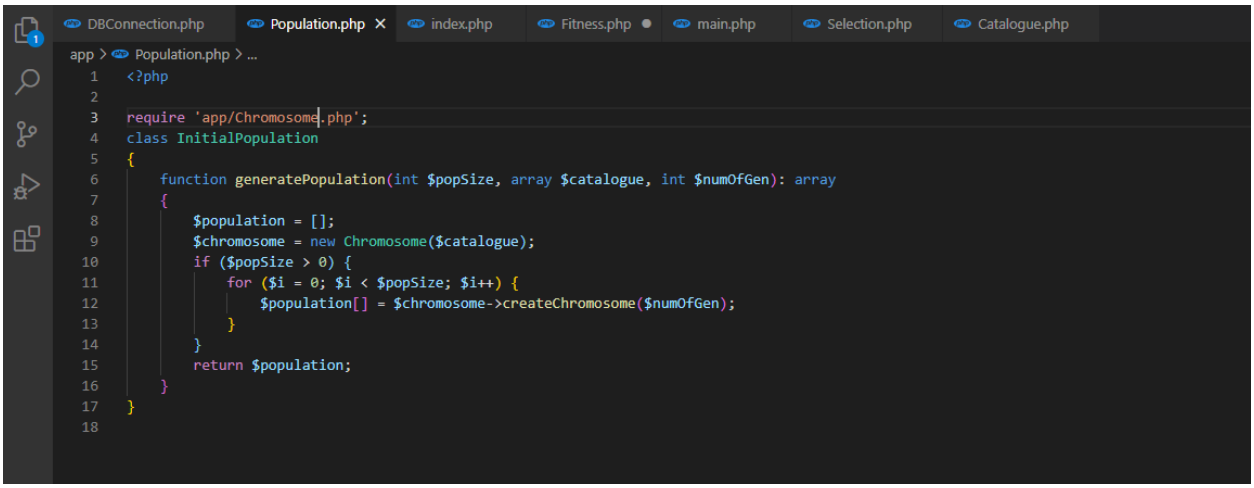
app > Catalogue.php > Catalogue > getDBConnection

```php
<?php
require 'app/DBconnection.php';

/**
 * Create product catalogue from database
 */
class Catalogue
{
    function getDBConnection()
    {
        $koneksiDB = new KoneksiDatabase;
        $koneksiDB->namaServer = 'localhost';
        $koneksiDB->namaDB = 'dbprak10';
        $koneksiDB->namaUser = 'root';
        $koneksiDB->passwordInPlaintext = '';

        return $koneksiDB->konekKeDatabase();
    }

    function createFakeCatalogue()
    {
        $faker = Faker\Factory::create('id_ID');
        $faker->addProvider(new \Bezhanov\Faker\Provider\Commerce($faker));

        // echo $image = $faker->imageUrl(100, 100, 'cats');
        // echo  "URL - " . $image . "<br/>";
        // echo " -- Image -- <br/>";
        // echo "<img src='" . $image . "'/>";
        // echo "<br/>";

        if (count($this->getAllProducts()) > 0){
            $this->emptyCatalogueTable();
        }
        for ($i = 0; $i < 30; $i++) {
            $item = $faker->productName();
            $price =  $faker->numberBetween(8500, 75000);
            $image = $faker->imageUrl(100, 100, 'business');

            //insert into table
            $sql = "INSERT INTO produk (item, item_price, item_picture) VALUES ('$item', '$price', '$image')";
            $this->getDBConnection()->query($sql);
```

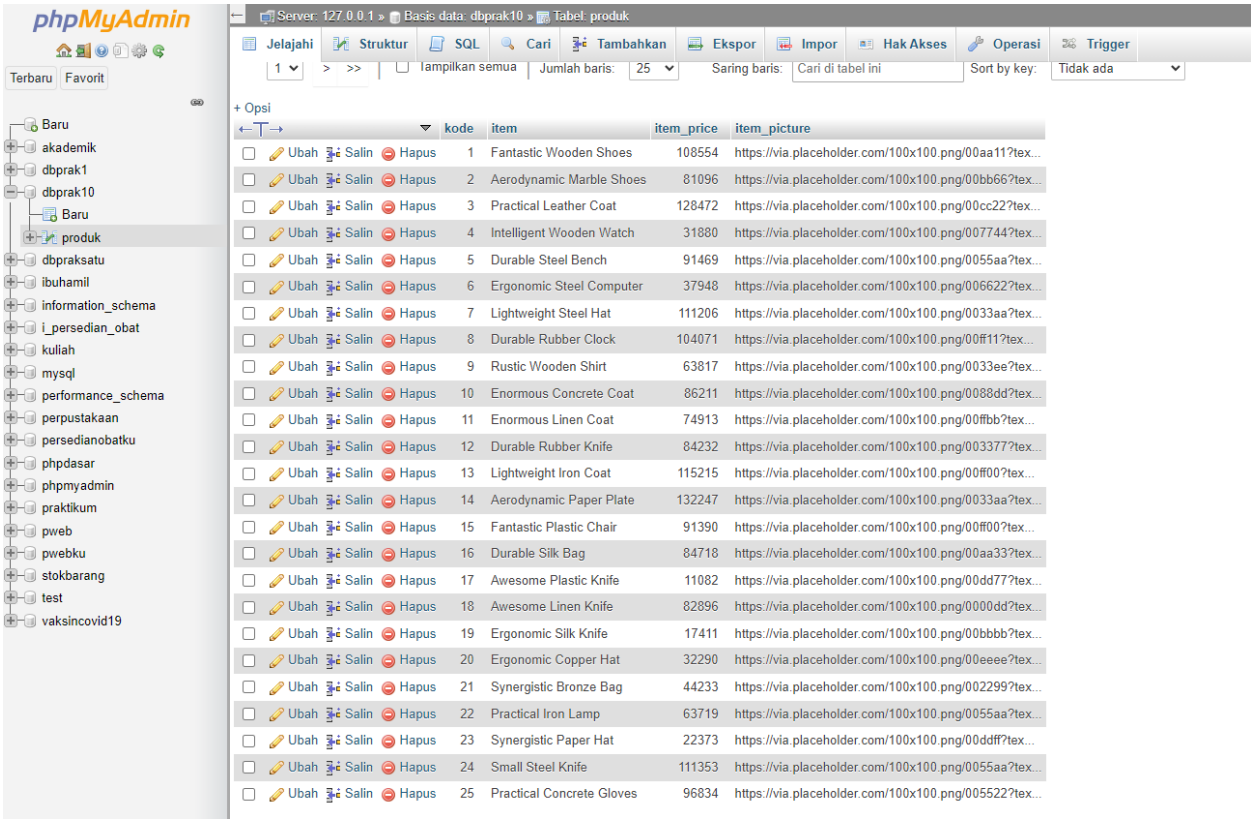

Explorer (Ctrl+Shift+E)
Population.php
index.php
Fitness.php
main.php
Selection.php
Catalogue.php
app > Selection.php > RouletteWheel > generateNewPopulation
<?php
require 'app/Fitness.php';
interface Selection
{
function generateNewPopulation($population, $maxBudget);
}
class RouletteWheel implements Selection
{
function generateNewPopulation($population, $maxBudget)
{
//
}
}
class Elitism implements Selection
{
public $crossoverOffsprings;
public $catalogue;
public $popSize;
function createTemporaryPopulation($population)
{
foreach ($this->crossoverOffsprings as $offspring) {
$population[] = $offspring;
}
return $population;
}
function check(array $checkPopulations, int $popSize, array $newPopulation, float $maxBudget)
{
if (count($checkPopulations) === $popSize){
if ($checkPopulations[0]['amount'] <= $maxBudget){
return $checkPopulations;
}
for ($i = $popSize; $i < count($newPopulation); $i++) {
array_shift($checkPopulations);
$checkPopulations[] = $newPopulation[$i];
if ($checkPopulations[0]['amount'] <= $maxBudget){
return $checkPopulations;
}




```php
<?php

class Fitness
{
    public $populations;
    public $maxBudget;
    public $catalogue;

    function __construct(array $populations, float $maxBudget, array $catalogue)
    {
        $this->populations = $populations;
        $this->maxBudget = $maxBudget;
        $this->catalogue = $catalogue;
    }

    function getAmount(array $chromosomes): float
    {
        $amount = 0;
        if (count(array_unique($chromosomes)) > 1) {
            foreach ($chromosomes as $key => $gen) {
                if ($gen === 1) {
                    $amount += $this->catalogue[$key]['item_price'];
                }
            }
        }
        return $amount;
    }

    function calculateFitnessValue(): array
    {
        $chromosomeWithFitnessValues = [];
        if (empty($this->populations[0])) {
            return $chromosomeWithFitnessValues;
        }
        foreach ($this->populations as $chromosomes) {
            $assignedGenes = $this->assigningGenWithPrice($chromosomes);
            $chromosomeWithFitnessValues[] =
                [
                    'numOfSelectedGen' => count($assignedGenes),
                    'fitnessValue' => array_sum(array_column($assignedGenes, 'price')),
                    'chromosome' => $chromosomes
                ];
        }
```




```php
<?php

require 'app/Chromosome.php';
class InitialPopulation
{
    function generatePopulation(int $popSize, array $catalogue, int $numOfGen): array
    {
        $population = [];
        $chromosome = new Chromosome($catalogue);
        if ($popSize > 0) {
            for ($i = 0; $i < $popSize; $i++) {
                $population[] = $chromosome->createChromosome($numOfGen);
            }
        }
        return $population;
    }
}

```


phpMyAdmin
Terbaru
Favorit
Baru
akademik
dbprak1
dbprak10
Baru
produk
dbpraksatu
ibuhamil
information_schema
i_persedian_obat
kuliah
mysql
performance_schema
perpustakaan
persedianobatku
phpdasar
phpmyadmin
praktikum
pweb
pwebku
stokbarang
test
vaksincovid19
Server: 127.0.0.1 » Basis data: dbprak10 » Tabel: produk
Jelajahi
Struktur
SQL
Cari
Tambahkan
Ekspor
Impor
Hak Akses
Operasi
Trigger
Tampilkan semua
Jumlah baris: 25
Saring baris: Cari di tabel ini
Sort by key: Tidak ada
+ Opsi
kode
item
item_price
item_picture
Ubah Salin Hapus 1 Fantastic Wooden Shoes 108554 https://via.placeholder.com/100x100.png/00aa11?tex...
Ubah Salin Hapus 2 Aerodynamic Marble Shoes 81096 https://via.placeholder.com/100x100.png/00bb66?tex...
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Ubah Salin Hapus 7 Lightweight Steel Hat 111206 https://via.placeholder.com/100x100.png/0033aa?tex...
Ubah Salin Hapus 8 Durable Rubber Clock 104071 https://via.placeholder.com/100x100.png/00ff11?tex...
Ubah Salin Hapus 9 Rustic Wooden Shirt 63817 https://via.placeholder.com/100x100.png/0033ee?tex...
Ubah Salin Hapus 10 Enormous Concrete Coat 86211 https://via.placeholder.com/100x100.png/0088dd?tex...
Ubah Salin Hapus 11 Enormous Linen Coat 74913 https://via.placeholder.com/100x100.png/00ffbb?tex...
Ubah Salin Hapus 12 Durable Rubber Knife 84232 https://via.placeholder.com/100x100.png/003377?tex...
Ubah Salin Hapus 13 Lightweight Iron Coat 115215 https://via.placeholder.com/100x100.png/00ff00?tex...
Ubah Salin Hapus 14 Aerodynamic Paper Plate 132247 https://via.placeholder.com/100x100.png/0033aa?tex...
Ubah Salin Hapus 15 Fantastic Plastic Chair 91390 https://via.placeholder.com/100x100.png/00ff00?tex...
Ubah Salin Hapus 16 Durable Silk Bag 84718 https://via.placeholder.com/100x100.png/00aa33?tex...
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Ubah Salin Hapus 19 Ergonomic Silk Knife 17411 https://via.placeholder.com/100x100.png/00bbbb?tex...
Ubah Salin Hapus 20 Ergonomic Copper Hat 32290 https://via.placeholder.com/100x100.png/00eeee?tex...
Ubah Salin Hapus 21 Synergistic Bronze Bag 44233 https://via.placeholder.com/100x100.png/002299?tex...
Ubah Salin Hapus 22 Practical Iron Lamp 63719 https://via.placeholder.com/100x100.png/0055aa?tex...
Ubah Salin Hapus 23 Synergistic Paper Hat 22373 https://via.placeholder.com/100x100.png/00ddff?tex...
Ubah Salin Hapus 24 Small Steel Knife 111353 https://via.placeholder.com/100x100.png/0055aa?tex...
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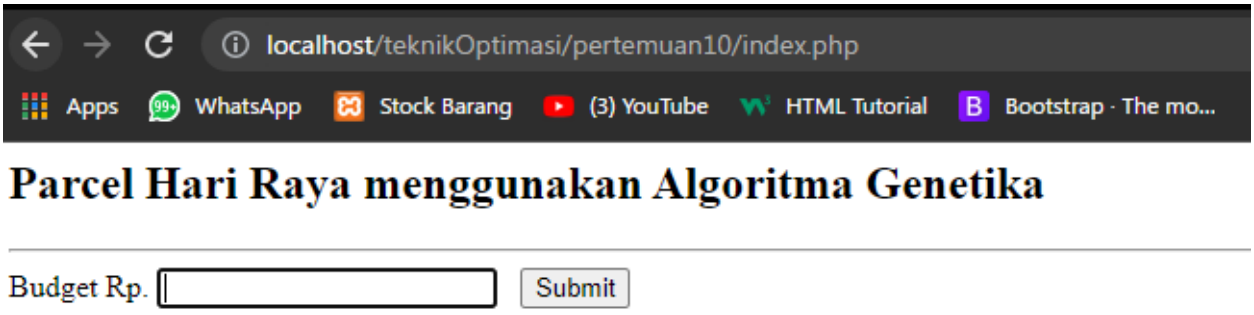
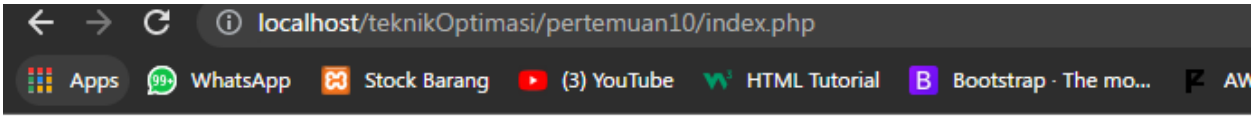
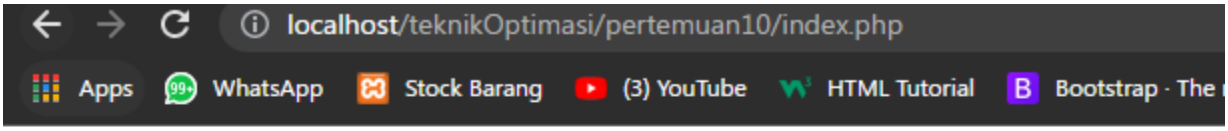

localhost/teknikOptimasi/pertemuan10/index.php
Apps
WhatsApp
Stock Barang
(3) YouTube
HTML Tutorial
Bootstrap - The mo...
Parcel Hari Raya menggunakan Algoritma Genetika
Budget Rp.
Submit



Parcel Hari Raya menggunakan Algoritma Genetika

Budget Rp. 400000 Submit



Parcel Hari Raya menggunakan Algoritma Genetika

Budget Rp. Submit

Optimum solution was not found. Try again, or add more budget.