**index.html**

<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <meta http-equiv="X-UA-Compatible" content="ie=edge">

  <title>Matrix Operations</title>

  <link rel="stylesheet" href="./css/bootstrap.min.css">

</head>

<body>

  <div class="container">

    <div class="row">

      <div class="col-sm-12">

        <h1>Matrix Operations</h1>

        <hr>

        <div class="row">

          <div class="col-sm-12 col-md-6 offset-3">

            <a class="btn btn-primary btn-block btn-lg" href="transpose.php">Matrix Transpose</a>

            <br>

          </div>

          <div class="col-sm-12 col-md-6 offset-3">

            <a class="btn btn-primary btn-block btn-lg" href="multiplication.php">Matrix Multiplication</a>

            <br>

          </div>

          <div class="col-sm-12 col-md-6 offset-3">

            <a class="btn btn-primary btn-block btn-lg" href="addition.php">Matrix Addition</a>

            <br>

          </div>

        </div>

      </div>

    </div>

  </div>

  <script src="./js/bootstrap.min.js"></script>

</body>

</html>

**transpose.php**

<?php

if ($\_POST) {

    $matrix = array(array(), array(), array());

    for ($i = 0; $i < 3; $i++) {

        for ($j = 0; $j < 3; $j++) {

            $matrix[$i][$j] = $\_POST["input-$i-$j"];

        }

        $transpose = transpose($matrix);

    }

}

function transpose($array) {

    return array\_map(null, ...$array);

}

function printMatrix($matrix) {

    for ($i = 0; $i < 3; $i++) {

        for ($j = 0; $j < 3; $j++) {

            echo "\t" . $matrix[$i][$j];

        }

        echo "\n";

    }

}

?>

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <meta http-equiv="X-UA-Compatible" content="ie=edge">

    <title>Matrix Operations</title>

    <link rel="stylesheet" href="./css/bootstrap.min.css">

    <style>

        pre {

            font-size: 1.6rem;

        }

        .form-inline .form-control {

            text-align: right;

            width: inherit !important;

        }

    </style>

</head>

<body>

    <div class="container">

        <div class="row">

            <div class="col-sm-12">

                <h1>Matrix Transpose</h1>

                <hr>

            </div>

            <div class="col-sm-6">

                <p>Enter values for 3 x 3 matrix: </p>

                <form action="" class="form-inline" method="post">

                    <div class="row">

                        <?php

                        for ($i = 0; $i < 3; $i++) {

                            for ($j = 0; $j < 3; $j++) {

                                echo "

                                <div class='col-sm-4'>

                                    <input class='form-control' type='number' name='input-$i-$j' required>

                                </div>

                                ";

                            }

                        }

                        ?>

                        <div class="col-sm-12"><br></div>

                        <div class="col-sm-8 offset-2">

                            <button type="submit" class="btn btn-lg btn-block btn-primary" name="sbumit">Transpose</button>

                        </div>

                    </div>

                </form>

            </div>

            <div class="col-sm-6">

                <p>Transpose matrix: </p>

                <pre><?php printMatrix(@$transpose); ?></pre>

            </div>

        </div>

    </div>

    <script src="./js/bootstrap.min.js"></script>

</body>

</html>

**multiplication.php**

<?php

function multiply($matrixA, $matrixB)

{

  $ans = array(array(), array(), array());

  for ($i = 0; $i < 3; $i++) {

    for ($j = 0; $j < 3; $j++) {

      $ans[$i][$j] = 0;

    }

  }

  for ($i = 0; $i < 3; $i++) {

    for ($j = 0; $j < 3; $j++) {

      for ($k = 0; $k < 3; $k++) {

        $ans[$i][$j] += $matrixA[$i][$k] \* $matrixB[$k][$j];

      }

    }

  }

  return $ans;

}

function printMatrix($matrix)

{

  for ($i = 0; $i < 3; $i++) {

    for ($j = 0; $j < 3; $j++) {

      echo "\t" . $matrix[$i][$j];

    }

    echo "\n";

  }

}

?>

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  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <meta http-equiv="X-UA-Compatible" content="ie=edge">

  <title>Matrix Operations</title>

  <link rel="stylesheet" href="./css/bootstrap.min.css">

  <style>

    pre {

      font-size: 1.6rem;

    }

    .form-inline .form-control {

      text-align: right;

      width: inherit !important;

    }

  </style>

</head>

<body>

  <div class="container">

    <div class="row">

      <div class="col-sm-12">

        <h1 class="text-primary">Matrix Multiplication</h1>

        <hr>

      </div>

      <form action="" class="form-inline" method="post">

        <div class="col-sm-6">

          <p>Enter values for matrix A: </p>

          <div class="row">

            <?php

            for ($i = 0; $i < 3; $i++) {

              for ($j = 0; $j < 3; $j++) {

                echo "

                <div class='col-sm-4'>

                  <input class='form-control' type='number' name='a-$i-$j' required>

                </div>

                ";

              }

            }

            ?>

          </div>

        </div>

        <div class="col-sm-6">

          <p>Enter values for matrix B: </p>

          <div class="row">

            <?php

            for ($i = 0; $i < 3; $i++) {

              for ($j = 0; $j < 3; $j++) {

                echo "

                <div class='col-sm-4'>

                  <input class='form-control' type='number' name='b-$i-$j' required>

                </div>

                ";

              }

            }

            ?>

          </div>

        </div>

        <div class="col-sm-12"><br></div>

        <div class="col-sm-8 offset-2">

          <button type="submit" class="btn btn-lg btn-block btn-primary" name="sbumit">Multiply</button>

        </div>

      </form>

      <div class="col-sm-12"><br></div>

      <?php

            if ($\_POST) {

              $matrixA = array(array(), array(), array());

              $matrixB = array(array(), array(), array());

              for ($i = 0; $i < 3; $i++) {

                for ($j = 0; $j < 3; $j++) {

                  $matrixA[$i][$j] = $\_POST["a-$i-$j"];

                }

              }

              for ($i = 0; $i < 3; $i++) {

                for ($j = 0; $j < 3; $j++) {

                  $matrixB[$i][$j] = $\_POST["b-$i-$j"];

                }

              }

              $ans = multiply($matrixA, $matrixB);

              ?>

              <div class="col-sm-8 offset-2 text-center">

                <p>A x B: </p>

                <pre><?php printMatrix(@$ans); ?></pre>

              </div>

                    <?php

            }

            ?>

    </div>

  </div>

  <script src="./js/bootstrap.min.js"></script>

</body>

</html>

**addition.php**

<?php

function add($matrixA, $matrixB) {

  $ans = array(array(), array(), array());

  for ($i = 0; $i < 3; $i++) {

    for ($j = 0; $j < 3; $j++) {

$ans[$i][$j] = $matrixA[$i][$j] + $matrixB[$i][$j];

    }

  }

  return $ans;

}

function printMatrix($matrix) {

  for ($i = 0; $i < 3; $i++) {

    for ($j = 0; $j < 3; $j++) {

      echo "\t" . $matrix[$i][$j];

    }

    echo "\n";

  }

}

?>

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    }

  </style>

</head>

<body>

  <div class="container">

    <div class="row">

      <div class="col-sm-12">

        <h1 class="text-primary">Matrix Addition</h1>

        <hr>

      </div>

      <form action="" class="form-inline" method="post">

        <div class="col-sm-6">

          <p>Enter values for matrix A: </p>

          <div class="row">

            <?php

            for ($i = 0; $i < 3; $i++) {

              for ($j = 0; $j < 3; $j++) {

                echo "

                <div class='col-sm-4'>

                  <input class='form-control' type='number' name='a-$i-$j' required>

                </div>

                ";

              }

            }

            ?>

          </div>

        </div>

        <div class="col-sm-6">

          <p>Enter values for matrix B: </p>

          <div class="row">

            <?php

            for ($i = 0; $i < 3; $i++) {

              for ($j = 0; $j < 3; $j++) {

                echo "

                <div class='col-sm-4'>

                  <input class='form-control' type='number' name='b-$i-$j' required>

                </div>

                ";

              }

            }

            ?>

          </div>

        </div>

        <div class="col-sm-12"><br></div>

        <div class="col-sm-8 offset-2">

          <button type="submit" class="btn btn-lg btn-block btn-primary" name="sbumit">Add</button>

        </div>

      </form>

      <div class="col-sm-12"><br></div>

      <?php

      if ($\_POST) {

        $matrixA = array(array(), array(), array());

        $matrixB = array(array(), array(), array());

        for ($i = 0; $i < 3; $i++) {

          for ($j = 0; $j < 3; $j++) {

            $matrixA[$i][$j] = $\_POST["a-$i-$j"];

          }

        }

        for ($i = 0; $i < 3; $i++) {

          for ($j = 0; $j < 3; $j++) {

            $matrixB[$i][$j] = $\_POST["b-$i-$j"];

          }

        }

        $ans = add($matrixA, $matrixB);

      ?>

      <div class="col-sm-8 offset-2 text-center">

        <h4>A + B: </h4>

        <pre><?php printMatrix(@$ans); ?></pre>

      </div>

      <?php

      }

      ?>

    </div>

  </div>

  <script src="./js/bootstrap.min.js"></script>

</body>

</html>





 