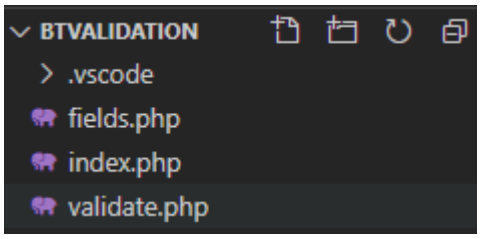
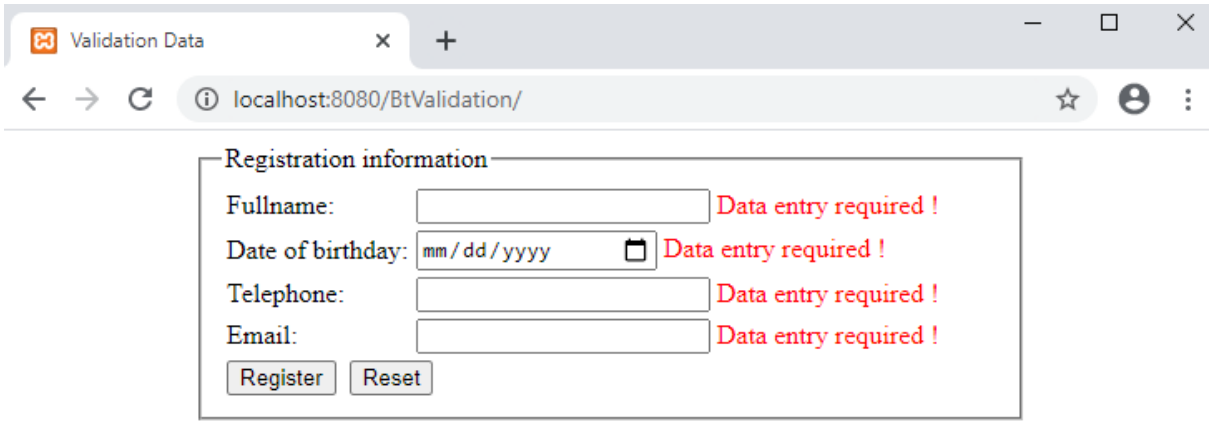
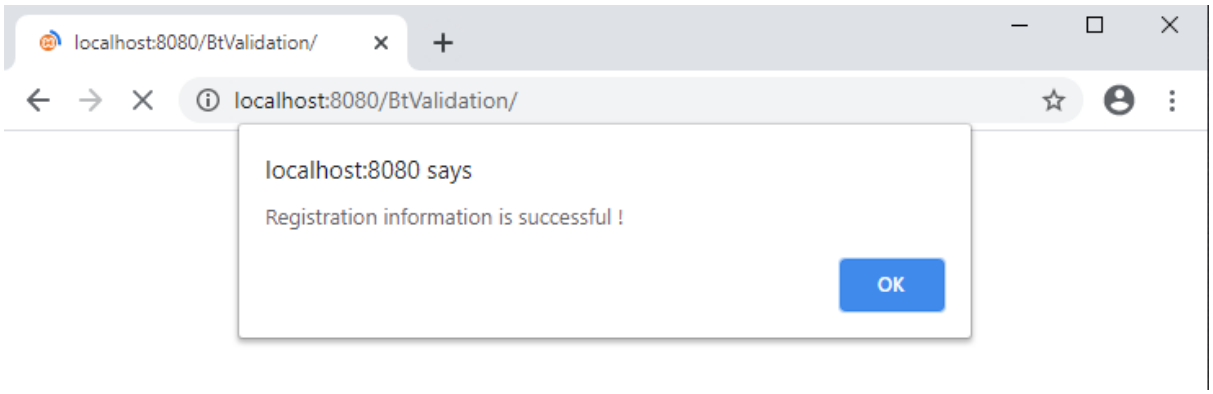
Lab 07. Bài thực hành Kiểm tra sự hợp lệ dữ liệu và phân trang

Bài 01. Hãy viết các đoạn mã kiểm tra hợp lệ dữ liệu cho các thành phần trên form sau đây:





+ Nếu đăng ký thông tin thành công sẽ hiển thị thông báo:



- **B1**. Định nghĩa lớp **fields.php** chứa các phương thức lấy tên và lấy thông điệp lỗi … các thành phần (fields) trên form.

```php
<?php
class Field
{
    private $name;
    private $message = '';
    private $hasError = false;
    public function __construct($name, $message = '') {
        $this->name = $name;
```

```
        $this->message = $message;
    }
    public function getName()    { return $this->name; }

    public function getMessage() { return $this->message; }
    public function hasError()   { return $this->hasError; }
    public function setErrorMessage($message) {
        $this->message = $message;
        $this->hasError = true;
    }
    public function clearErrorMessage() {
        $this->message = '';
        $this->hasError = false;
    }
    public function getHTML() {
        $message = htmlspecialchars($this->message);
        if ($this->hasError()) {
            return '<span style="color:red">' . $message . '</span>';
        } else {
            return '<span>' . $message . '</span>';
        }
    }
}
class Fields {
    private $fields = array();
    public function addField($name, $message = '') {
        $field = new Field($name, $message);
        $this->fields[$field->getName()] = $field;
    }
    public function getField($name) {
        return $this->fields[$name];
    }
    public function hasErrors() {
        foreach ($this->fields as $field) {
            if ($field->hasError()) { return true; }
```

```
        }
        return false;
    }
}
?>
```

- **B2**. Định nghĩa lớp **validate.php** chứa các phương thức xử lý kiểm tra hợp lệ dữ liệu như text(), phone(), email() …

```
<?php
 class Validate {
    private $fields;
    public function __construct() {
        $this->fields = new Fields();
    }
    public function getFields() {
        return $this->fields;
    }
    // Validate a generic text field
    public function text($name, $value,$required = true, $min = 1, $max = 255) {
        // Get Field object
        $field = $this->fields->getField($name);
        // If field is not required and empty, remove error and exit
        if (!$required && empty($value)) {
            $field->clearErrorMessage();
            return;
        }
        // Check field and set or clear error message
        if ($required && empty($value)) {
            $field->setErrorMessage('Data entry required !');
        } else if (strlen($value) < $min) {
            $field->setErrorMessage('Data entered is too short !');
        } else if (strlen($value) > $max) {
            $field->setErrorMessage('Data entered is too long !');
        } else {
            $field->clearErrorMessage();
```

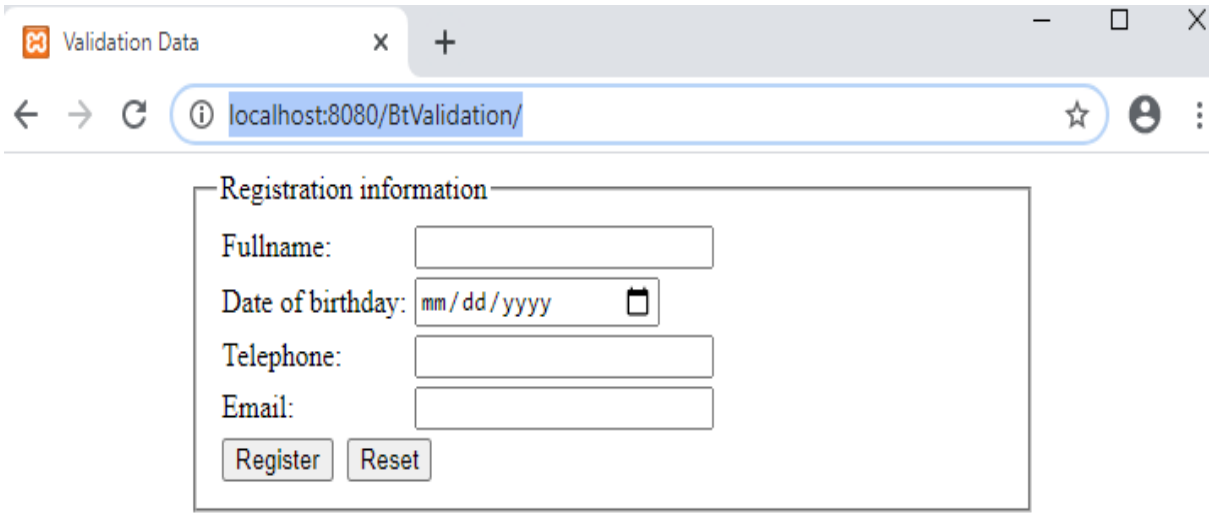
```
    }
}

// Validate a generic number field
public function number($name, $value, $required = true) {
    // Get Field object
    $field = $this->fields->getField($name);
    // Call the text method and exit if it yields an error
    $this->text($name, $value, $required);
    if ($field->hasError()) { return; }
    // Check field and set or clear error message
    if (!is_numeric($value)) {
        $field->setErrorMessage('Must be a valid number.');
    } else {
        $field->clearErrorMessage();
    }
}
// Validate a field with a generic pattern
public function pattern($name, $value, $pattern, $message, $required = true) {
    // Get Field object
    $field = $this->fields->getField($name);
    // If field is not required and empty, remove errors and exit
    if (!$required && empty($value)) {
        $field->clearErrorMessage();
        return;
    }
    // Check field and set or clear error message
    $match = preg_match($pattern, $value);
    if ($match === false) {
        $field->setErrorMessage('Error testing field.');
    } else if ( $match != 1 ) {
        $field->setErrorMessage($message);
    } else {
        $field->clearErrorMessage();
    }
```

```
    }

    public function phone($name, $value, $required = false) {
        $field = $this->fields->getField($name);
        // Call the text method and exit if it yields an error
        $this->text($name, $value, $required);
        if ($field->hasError()) { return; }
        // Call the pattern method to validate a phone number
        $pattern = '/^[[:digit:]]{10}$/';
        $message = 'Invalid phone number.';
        $this->pattern($name, $value, $pattern, $message, $required);
    }
    public function email($name, $value, $required = true) {
        $field = $this->fields->getField($name);
        // Call the text method and exit if it yields an error
        $this->text($name, $value, $required);
        if ($field->hasError()) { return; }
        // Use filter_var method to validate the email address
        $email = filter_var($value, FILTER_VALIDATE_EMAIL);
        // If email address is not valid, set error message and exit
        if ($email === false) {
            $field->setErrorMessage("Invalid email address");
        } else {
            $field->clearErrorMessage();
        }
    }
}
?>
```

- **B3.** Thiết kế form như giao diện và viết code xử lý




```php
<?php
  include_once('fields.php');
  include_once('validate.php');
  $action = filter_input(INPUT_POST,'action');
  $fullname = filter_input(INPUT_POST,'fullname');
  $birthday = filter_input(INPUT_POST,'birthday');
  $telephone = filter_input(INPUT_POST,'telephone');
  $email = filter_input(INPUT_POST,'email');
  //Sets up fields
  $validate = new Validate();
  $fields = $validate->getFields();
  $fields->addField('fullname');
  $fields->addField('birthday');
  $fields->addField('telephone');
  $fields->addField('email');
  if(!empty($action) && $action == 'register')
  {
     //Validate form data
     $validate->text('fullname',$fullname);
     $validate->text('birthday',$birthday);
     $validate->phone('telephone',$telephone,true);
     $validate->email('email',$email);
```

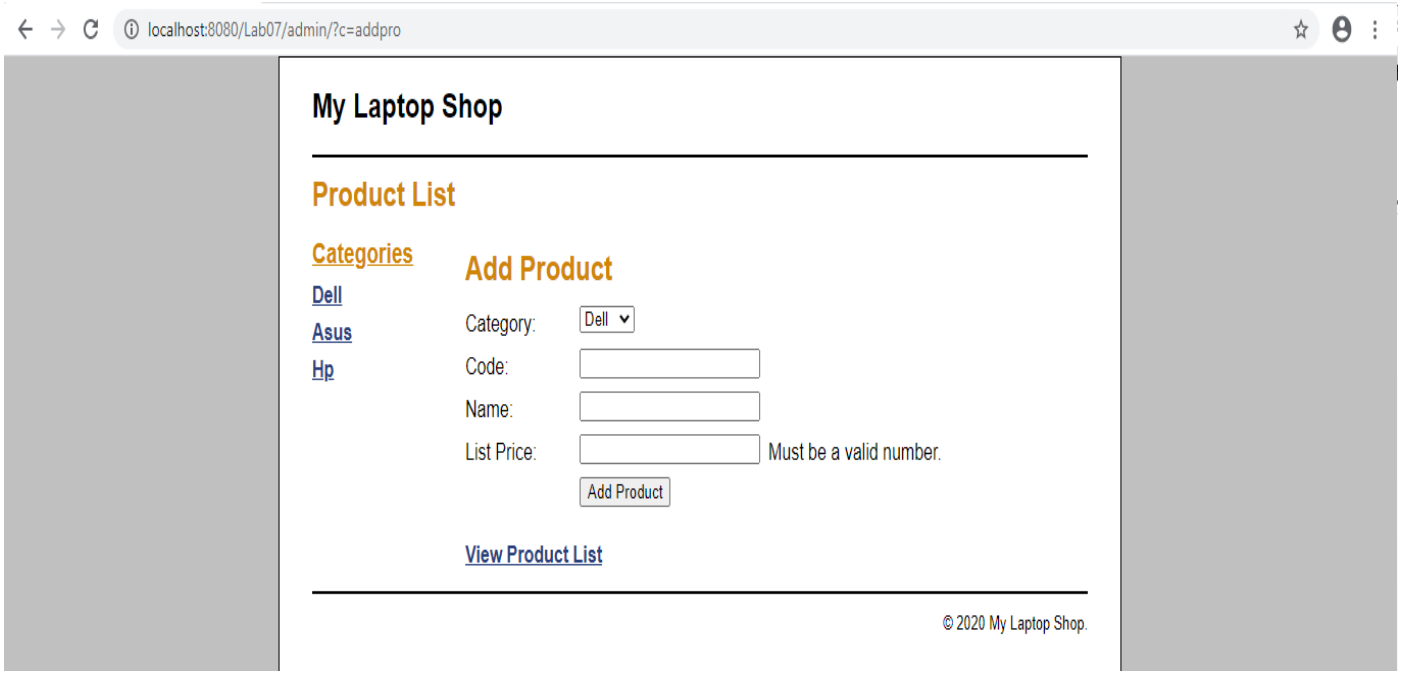
```
    if(!$fields->hasErrors())
    {
      echo "<script>alert('Registration information is successful !');</script>";
    }
  }
?>
<!doctype html>
<html>
<head>
<meta charset="utf-8">
<title>Validation Data</title>
</head>
<body>
  <div style="width:500px;margin:auto;">
    <form action="" method="post">
      <fieldset>
        <legend>Registration information</legend>
        <table>
          <tr>
            <td>Fullname:</td>
            <td>
              <input type="text" name="fullname"
                  value="<?php if(isset($fullname)) echo $fullname;?>">
              <!-- Dispaly message error -->
              <?php echo $fields->getField('fullname')->getHTML(); ?>
             </td>
          </tr>
          <tr>
            <td>Date of birthday:</td>
            <td>
              <input type="date" name="birthday"
                   value="<?php if(isset($birthday)) echo $birthday;?>">
              <?php echo $fields->getField('birthday')->getHTML(); ?>
            </td>
          </tr>
```

```
        <tr>
          <td>Telephone:</td>
          <td>
            <input type="text" name="telephone"
                value="<?php if(isset($telephone)) echo $telephone;?>">
            <?php echo $fields->getField('telephone')->getHTML(); ?>
          </td>
        </tr>
        <tr>
          <td>Email:</td>
          <td>
            <input type="email" name="email"
                value="<?php if(isset($email)) echo $email;?>">
            <?php echo $fields->getField('email')->getHTML(); ?>
          </td>
        </tr>
        <tr>
          <td colspan="2">
            <input type="hidden" name="action" value="register">
            <input type="submit" value="Register"> 
            <input type="reset"  value="Reset">
          </td>
        </tr>
      </table>
    </fieldset>
  </form>
 </div>
</body>
</html>
```

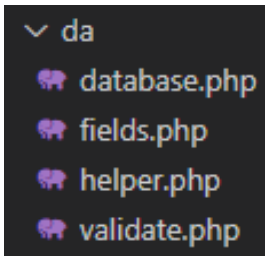
Bài 02. Hãy viết các đoạn mã kiểm tra hợp lệ dữ liệu trên form **Add Product** (tương tự các em thực hành kiểm tra hợp lệ dữ liệu trên form **Add Category**).

+) Cách 1: sử dụng hai file: **fields.php** và **validate.php** định nghĩa các phương thức xử lý nghiệp vụ kiểm tra hợp lệ dữ liệu trên form. (sử dụng hai file này ở ví dụ bài tập 01)

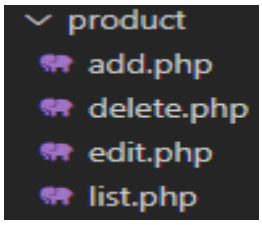
- **B1**. Giao diện form **Add Product**



- **B2**. Thêm hai file **fields.php** và **validate.php** vào thư mục **lab07\model\da**



- **B3.** Bổ sung thêm đoạn mã xử lý kiểm tra hợp lệ dữ liệu trên form **Add Product** (cụ thể file **product\add.php**

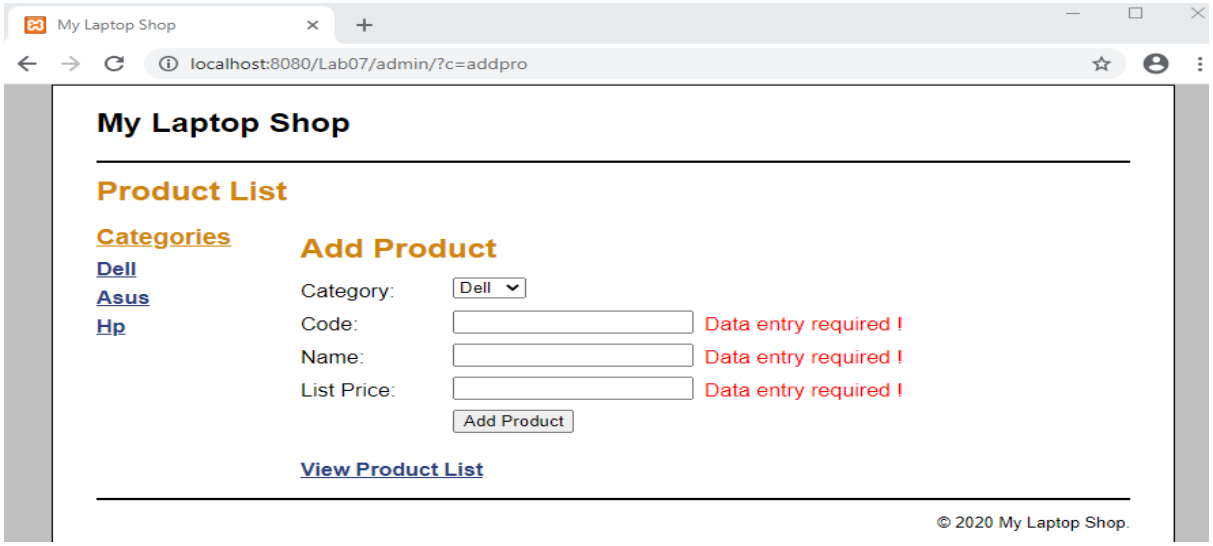



```php
<?php
    $categories = CategoryDB::getCategories();
    //Sets up fields
    $validate = new Validate();
    $fields = $validate->getFields();
```

```
    $fields->addField('code');
    $fields->addField('name');
    $fields->addField('price','Must be a valid number.');
    if(Helper::is_submit('add_product'))
    {
      $product = new Product();
      $product->setCategoryId(Helper::input_value('category_id'));
      $product->setCode(Helper::input_value('code'));
      $product->setName(Helper::input_value('name'));
      $product->setPrice(Helper::input_value('price'));
      //Validate form data
      $validate->text('code',$product->getCode(),true,1,10);
      $validate->text('name',$product->getName());
      $validate->number('price',$product->getPrice());
      if(!$fields->hasErrors() && ProductDB::addProduct($product))
      {
        Helper::redirect('?c=listpro');
      }
    }
?>
<h1>Add Product</h1>
  <form action="" method="post" id="action_form">
    <input type="hidden" name="action" value="add_product">
    <label>Category:</label>
    <select name="category_id">
    <?php
      if(!empty($categories))
        foreach ($categories as $category) : ?>
        <option value="<?php echo $category->getId(); ?>">
          <?php echo $category->getName(); ?>
        </option>
        <?php endforeach; ?>
    </select>
    <br>
    <label>Code:</label>
```

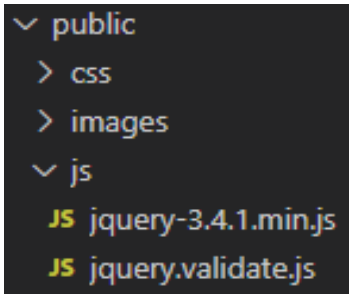
```
    <input type="input" name="code" value="<?php echo Helper::input_value('code');?>">
    <!-- Dispaly message error -->
    <?php echo $fields->getField('code')->getHTML(); ?>
    <br>
    <label>Name:</label>
    <input type="input" name="name" value="<?php echo Helper::input_value('name');  ?>">
    <?php echo $fields->getField('name')->getHTML(); ?>
    <br>
    <label>List Price:</label>
    <input type="input" name="price" value="<?php echo Helper::input_value('price');  ?>">
    <?php echo $fields->getField('price')->getHTML(); ?>
    <br>
    <label> </label>
    <input type="submit" value="Add Product">
    <br>
</form>
<p><a href="<?php echo Helper::get_url('admin/?c=listpro');?>">View Product List</a></p>
```

- **B4.** Giao diện form **Add Product** khi người dùng không nhập dữ liệu.

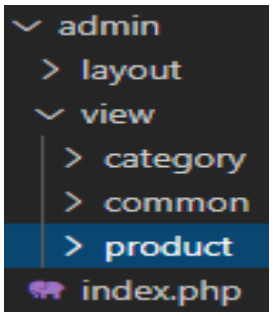


+) Cách 2: sử dụng file thư viện **jquery.validate.js** kiểm tra hợp lệ dữ liệu trên form.

- **B1**. Thêm hai file **jquery-3.4.1.min.js** và **jquery.validate.js** vào project



- **B2.** Mở file **admin\index.php** (controller), khai báo đường dẫn đến hai file **jquery-3.4.1.min.js** và **jquery.validate.js**




```
<script src="../public/js/jquery-3.4.1.min.js"></script>
<script src="../public/js/jquery.validate.js"></script>
```

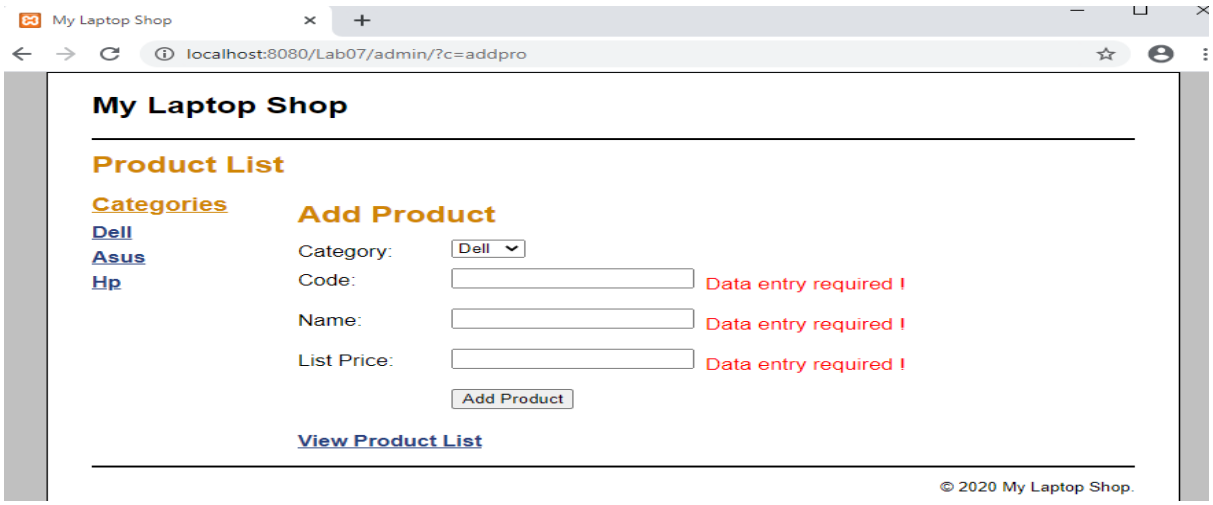
- **B3**. Thêm đoạn mã **jquery** sau vào file file **product\add.php,** kiểm tra sự hợp lệ dữ liệu form **Add Product.**

```
<?php
    $categories = CategoryDB::getCategories();
    if(Helper::is_submit('add_product'))
    {
      $product = new Product();
      $product->setCategoryId(Helper::input_value('category_id'));
      $product->setCode(Helper::input_value('code'));
      $product->setName(Helper::input_value('name'));
      $product->setPrice(Helper::input_value('price'));
      if(ProductDB::addProduct($product))
      {
        Helper::redirect('?c=listpro');
      }
    }
?>
```

```
<h1>Add Product</h1>
  <form action="" method="post" id="action_form">
    <input type="hidden" name="action" value="add_product">
    <label>Category:</label>
    <select name="category_id">
    <?php
        if(!empty($categories))
            foreach ($categories as $category) : ?>
            <option value="<?php echo $category->getId(); ?>">
              <?php echo $category->getName(); ?>
            </option>
            <?php endforeach; ?>
    </select>
    <br>
    <label>Code:</label>
  <input type="input" style="color:black;" name="code" value="<?php echo Helper::input_value('code');?>">
    <br>
    <label>Name:</label>
 <input type="input" style="color:black;" name="name" value="<?php echo Helper::input_value('name');?>">
    <br>
    <label>List Price:</label>
  <input type="input" style="color:black;" name="price" value="<?php echo Helper::input_value('price');?>">
    <br>
    <label> </label>
    <input type="submit" value="Add Product">
    <br>
  </form>
  <p><a href="<?php echo Helper::get_url('admin/?c=listpro');?>">View Product List</a></p>
  <script>
    $(document).ready(function () {
        //validation
        $("#action_form").validate({
            rules: {
                code: {
                    required: true
```

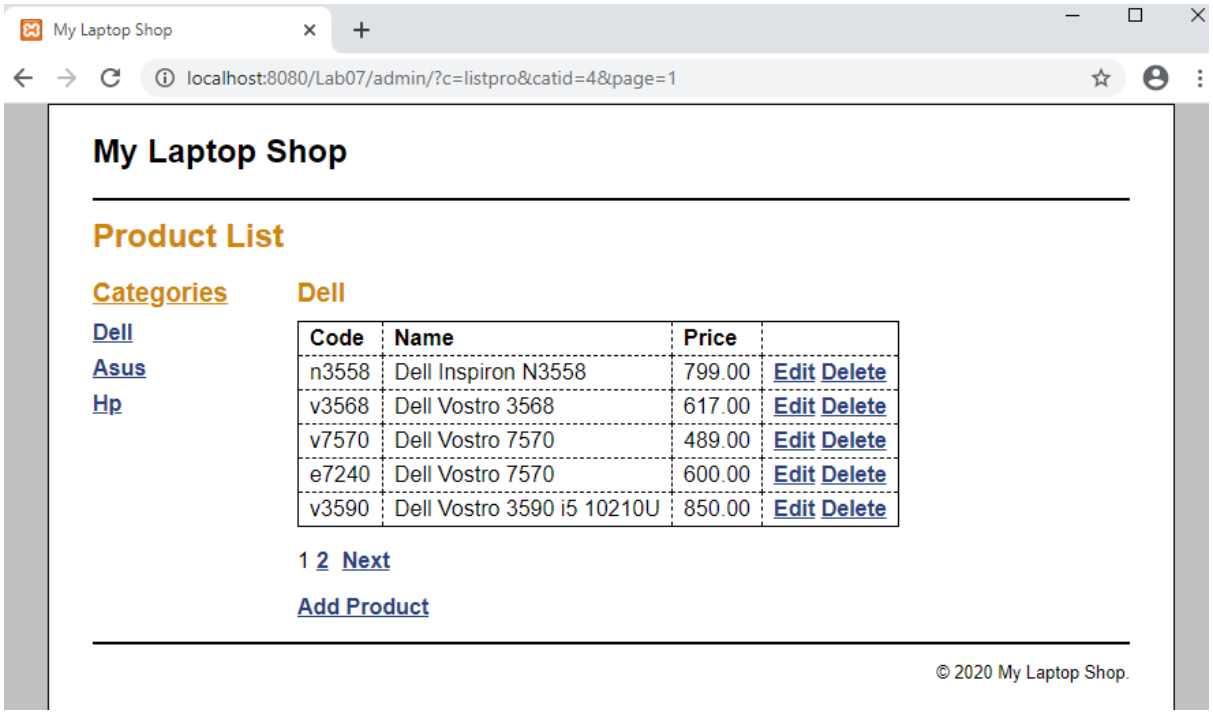
```
        },
        name: {
            required: true
        },
        price: {
            required: true,
            number:true
        }
    },
    messages: {
        code: {
            required: "<span style='color:red;width:200px'>Data entry required !</span>"
        },
        name: {
            required: "<span style='color:red;width:200px'>Data entry required !</span>"
        },
        price: {
            required: "<span style='color:red;width:200px'>Data entry required !</span>",
            number: "<span style='color:red;width:200px'>Must be a valid number !</span>"
        }
    }
  });
});
</script>
```

- **B4**. Giao diện kiểm tra hợp lệ dữ liệu trên form



Bài 03. Hãy viết các đoạn mã phân trang cho trang **list Product** (tương tự các em thực hành phân trang **list Category**).

Giao diện trang **product\list.php** sau khi phân trang.



- **B1**. Định nghĩa phương thức **paging()** cho **lớp Helper** để xử lý phân trang.

```
public static function paging($link, $total_records, $current_page, $limit)
    {
        $total_page = ceil($total_records / $limit);
        // Limit current_page in 1 to total_page
        if ($current_page > $total_page) {
            $current_page = $total_page;
        } else if ($current_page < 1) {
            $current_page = 1;
        }
        $start = ($current_page - 1) * $limit;
        $html = '<ul class="pagination">';
        if ($current_page > 1 && $total_page > 1) {
    $html .= '<li class="page-item"><a class="page-link" href="" . str_replace('{page}', $current_page - 1, $link) . '">Prev</a></li>';
        }
        for ($i = 1; $i <= $total_page; $i++) {
            if ($i == $current_page) {
                $html .= '<li class="page-link bg-warning">' . $i . '</li>';
```

```
        } else {
            $html .= '<li class="page-item"><a class="page-link" href="' . str_replace('{page}', $i, $link) . '">' . $i . '</a></li>';
        }
    }
    if ($current_page < $total_page && $total_page > 1) {
    $html .= '<li class="page-item"></li><a class="page-
link" href="' . str_replace('{page}', $current_page + 1, $link) . '">Next</a></li></ul>';
    }
    return array(
        'start' => $start,
        'limit' => $limit,
        'html' => $html
    );
}
```

- **B2**. Thêm phương thức **db_num_rows()** cho file **database.php** để lấy số bản ghi từ câu truy vấn.

```
public static function db_num_rows($sql = '')
    {
      $count = 0;
      if(!is_null(self::$con))
      {
        $result = self::$con->prepare($sql);
        $result->execute();
        $count = $result->rowCount();
        $result->closeCursor();
        return $count;
      }
      return false;
    }
```

- **B3.** Thêm phương thức **getProductsPagingByCategoryId()** cho file **product_db.php** để xử lý nghiệp vụ phân trang cho bảng Products.

```
public static function getProductsPagingByCategoryId($categoryid,&$paging_html)
  {
    $link = Helper::get_url("admin/?c=listpro&catid=$categoryid&page={page}");
```

```
    $sql = "select * from products where categoryID=$categoryid";
    $total_records = self::db_num_rows($sql);
    $current_page = Helper::input_value('page');
    $limit = 5;
    $paging = Helper::paging($link,$total_records,$current_page,$limit);
    $paging_html = $paging['html'];
    $sql = "select * from products where categoryID=:categoryID limit {$paging['start']},{$paging['limit']}";
    $params = ['categoryID' => $categoryid];
    if(!empty(self::db_get_list_condition($sql,$params)))
    {
       foreach(self::db_get_list_condition($sql,$params) as $row)
       {
          $product = new Product();
          $product->setId($row['productID']);
          $product->setCategoryId($row['categoryID']);
          $product->setCode($row['productCode']);
          $product->setName($row['productName']);
          $product->setPrice($row['listPrice']);
          $products[] = $product;
       }
    return $products;
    }
  }
```

- **B4.** Bổ sung đoạn mã sau cho file **product\list.php** (view) để hiển thị phân trang.

```
<style>
  ul.pagination {margin: 0px;padding:0px;}
  ul.pagination li{float:left;padding-right: 5px;}
</style>
<?php
  $catid = Helper::input_value('catid');
  if(empty($catid))
  {
    $catid  = ProductDB::getMinCatId('CategoryId','Categories');
  }
```

```
  $category = CategoryDB::getCategoryById($catid);
  /*Paging*/
  $paging_html = "";
  $products = ProductDB::getProductsPagingByCategoryId($catid,$paging_html);
?>
/*.....Đây là đoạn mã hiển thị nội dung bảng Products……*/
      <div>
        <?php
            echo $paging_html;
        ?>
      </div>
<p><a href="<?php echo Helper::get_url('admin/?c=addpro');?>">Add Product</a></p>
```