



**«Московский государственный технический университет  
имени Н.Э. Баумана»**

**(МГТУ им. Н.Э. Баумана)**

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ФАКУЛЬТЕТ \_\_\_\_\_ Информатика и системы управления \_\_\_\_\_

КАФЕДРА \_\_\_\_\_ Системы обработки информации \_\_\_\_\_

\_\_\_\_\_ и управления \_\_\_\_\_

## **Р у б е ж н ы й   к о н т р о л ь        № 2**

Дисциплина: \_\_\_\_\_ Разработка интернет\_приложений \_\_\_\_\_

Студент гр. \_ИУ5-52Б\_ \_\_\_\_\_ **И.А. Нырков** \_\_\_\_\_  
(Подпись, дата) (И.О. Фамилия)

Преподаватель \_\_\_\_\_ **Ю.Е. Гапанюк** \_\_\_\_\_  
(Подпись, дата) (И.О. Фамилия)

## Описание задания:

Рубежный контроль представляет собой разработку веб-приложения с использованием фреймворка Django. Веб-приложение должно выполнять следующие функции:

1. Создайте проект Python Django с использованием стандартных средств Django.
2. Создайте модель Django ORM, содержащую две сущности, связанные отношением один-ко-многим в соответствии с Вашим вариантом из условий рубежного контроля №1.
3. С использованием стандартного механизма Django сгенерируйте по модели макет веб-приложения, позволяющий добавлять, редактировать и удалять данные.
4. Создайте представление и шаблон, формирующий отчет, который содержит соединение данных из двух таблиц.

Сущности: “Книга”, “Книжный магазин”.

### library/library/urls.py

```
from django.urls import path, include

urlpatterns = [
    path("", include("bookInfo.urls")),
]
```

### library/bookInfo/urls.py

```
from django.urls import path, include
from . import views
urlpatterns = [
    path("", views.about, name='about'),
    path('bookshop', views.bookshop_list, name='bookshop'),
    path('bookshop/create', views.BookShopCreate.as_view()),
    path('bookshop/<int:bookshop_record_id>/update',
         views.BookShopUpdate.as_view(), name='bookshop_update'),
    path('class/<int:bookshop_record_id>/delete',
         views.BookShopDelete.as_view(), name='bookshop_delete'),
    path('book', views.book_list, name='book'),
    path('book/create', views.BookCreate.as_view()),
    path('book/<int:book_record_id>/update', views.BookUpdate.as_view(), name='book_update'),
    path('book/<int:book_record_id>/delete', views.BookDelete.as_view(), name='book_delete'),
    path('report', views.report, name='report')
]
```

### library/bookInfo/views.py

```
from django.shortcuts import render
from django.views.generic.edit import CreateView, UpdateView, DeleteView
from django import forms
from .models import *
from datetime import datetime
```

```

def about(request):
    return render(request, 'bookInfo/about.html')

def book_list(request):
    books = Book.objects.all().values()
    params = {'entity': 'Book', 'objects': books}
    return render(request, 'bookInfo/list.html', params)

def bookshop_list(request):
    bookshops = BookShop.objects.all().values()
    params = {'entity': 'Bookshop', 'objects': bookshops}
    return render(request, 'bookInfo/list.html', params)

class BookShopCreate(CreateView):
    model = BookShop
    fields = ['address', 'name']
    success_url = '/bookshop'
    template_name = 'bookInfo/bookshop_form.html'

class BookShopUpdate(UpdateView):
    model = BookShop
    fields = ['address', 'name']
    pk_url_kwarg = 'bookshop_record_id'
    success_url = '/bookshop'
    template_name = 'bookInfo/bookshop_form.html'

class BookShopDelete(DeleteView):
    model = BookShop
    pk_url_kwarg = 'bookshop_record_id'
    success_url = '/bookshop'
    template_name = 'bookInfo/bookshop_delete_form.html'

def report(request):
    books = Book.objects.all()
    params = {'books': books, 'date': datetime.now().strftime("%Y-%m-%d %H:%M:%S")}
    return render(request, 'bookInfo/report.html', params)

class BookCreate(CreateView):
    model = Book
    fields = ['title', 'author', 'bookshop_record_id']
    success_url = '/book'
    template_name = 'bookInfo/book_form.html'

def get_context_data(self, **kwargs):
    context = super(BookCreate, self).get_context_data(**kwargs)
    context['form'].fields['bookshop_record_id'] = \
        forms.ModelChoiceField(queryset=BookShop.objects.all(),

```

```

        empty_label=None, label='Bookshop')
    return context

```

```

class BookUpdate(UpdateView):
    model = Book
    fields = ['title', 'author', 'bookshop_record_id']
    pk_url_kwarg = 'book_record_id'
    success_url = '/book'
    template_name = 'bookInfo/book_form.html'

    def get_context_data(self, **kwargs):
        context = super(BookUpdate, self).get_context_data(**kwargs)
        context['form'].fields['book_record_id'] = \
            forms.ModelChoiceField(queryset=BookShop.objects.all(),
                                   empty_label=None, label='Bookshop')
        return context

```

```

class BookDelete(DeleteView):
    model = Book
    pk_url_kwarg = 'book_record_id'
    success_url = '/book'
    template_name = 'bookInfo/book_delete_form.html'

```

## library/bookInfo/models.py

```

from django.db import models

class BookShop(models.Model):
    bookshop_record_id = models.AutoField('bookshop_record_id', primary_key=True)
    address = models.TextField('address')
    name = models.CharField('name', max_length=30)

    def __str__(self):
        return f'{self.name} {self.address}'

class Book(models.Model):
    book_record_id = models.AutoField('book_record_id', primary_key=True)
    title = models.CharField('title', max_length=30)
    author = models.CharField('author', max_length=20)
    bookshop_record_id = models.ForeignKey('BookShop',
                                           models.DO_NOTHING,
                                           db_column='bookshop_record_id',
                                           verbose_name='bookshop')

```

## library/bookInfo/tempates/bookInfo/base.html

```

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">

```

```

<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>{% block title %} {% endblock %}</title>
<link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootstrap.min.css"></head>
<body>
  <div class="d-flex flex-column flex-md-row align-items-center pb-3 mb-4 border-bottom">
    <a href="/BuyOrSell/about" class="d-flex align-items-center text-dark text-decoration-none">
      <span class="fs-4"> Book labyrinth </span>
    </a>
    <nav class="d-inline-flex mt-2 mt-md-0 ms-md-auto">
      <a class="me-3 py-2 text-dark text-decoration-none" href="{% url 'about' %}">About book
library</a>
      <a class="me-3 py-2 text-dark text-decoration-none" href="{% url 'book' %}">Books</a>
      <a class="me-3 py-2 text-dark text-decoration-none" href="{% url 'bookshop'
%}">Bookshops</a>
      <a class="me-3 py-2 text-dark text-decoration-none" href="{% url 'report' %}">Report</a>
    </nav>
  </div>
  <div class="container">
    {% block content %} {% endblock %}
  </div>
</body>
</html>

```

## library/bookInfo/tempates/bookInfo/about.html

```

{% extends 'bookInfo/base.html' %}

{% block title %}
Page about whole thing
{% endblock %}

{% block content %}
<h1>About book website <b>"Book labyrinth"</b></h1>
<pre>
  "Book labyrinth" is cite with books and info about them
</pre>
{% endblock %}

```

## library/bookInfo/tempates/bookInfo/book\_form.html

```

{% extends "bookInfo/base.html" %}
{% block title %}
Change
{% endblock %}
{% block content %}
<h2>Record parameters</h2>
<form action="" method="post">
  {% csrf_token %}
  <table>
    {{ form.as_table }}
  </table>
  <br>

```

```

    <input type="submit" value="Save" />
</form>
{{bookshop_text.name}} {{bookshop_text.address}}
{% endblock %}

```

## library/bookInfo/tempates/bookInfo/book\_delete\_form.html

```

{% extends "bookInfo/base.html" %}
{% block content %}
<h2>Deleting record</h2>
<p>Are you sure, you want to delete book <i>{{object.title}}
    by {{object.author}}</i>?
</p>
<form action="" method="POST">
    {% csrf_token %}
    <input type="submit" value="delete" />
</form>
{% endblock %}

```

## library/bookInfo/tempates/bookInfo/bookshop\_form.html

```

{% extends "bookInfo/base.html" %}
{% block title %}
Change
{% endblock %}
{% block content %}
<h2>Record parameters</h2>
<form action="" method="post">
    {% csrf_token %}
    <table>
        {{ form.as_table }}
    </table>
    <br>
    <input type="submit" value="Save" />
</form>
{% endblock %}

```

## library/bookInfo/tempates/bookInfo/bookshop\_delete\_form.html

```

{% extends "bookInfo/base.html" %}
{% block content %}
<h2>Delete Record</h2>
<p>Are you sure, you want to delete record?
    {{object.name}} at {{object.address}}?
</p>
<form action="" method="POST">
    {% csrf_token %}
    <input type="submit" value="Delete" />
</form>
{% endblock %}

```

## library/bookInfo/tempates/bookInfo/list.html

```
{% extends 'bookInfo/base.html' %}

{% block title %}
{{entity}}
{% endblock %}

{% block content %}
<h2>Entity <i>{{entity}}</i></h2>

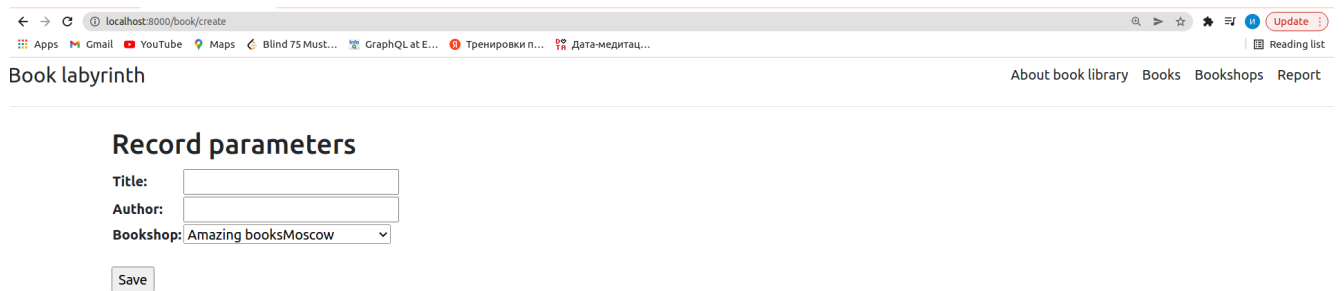
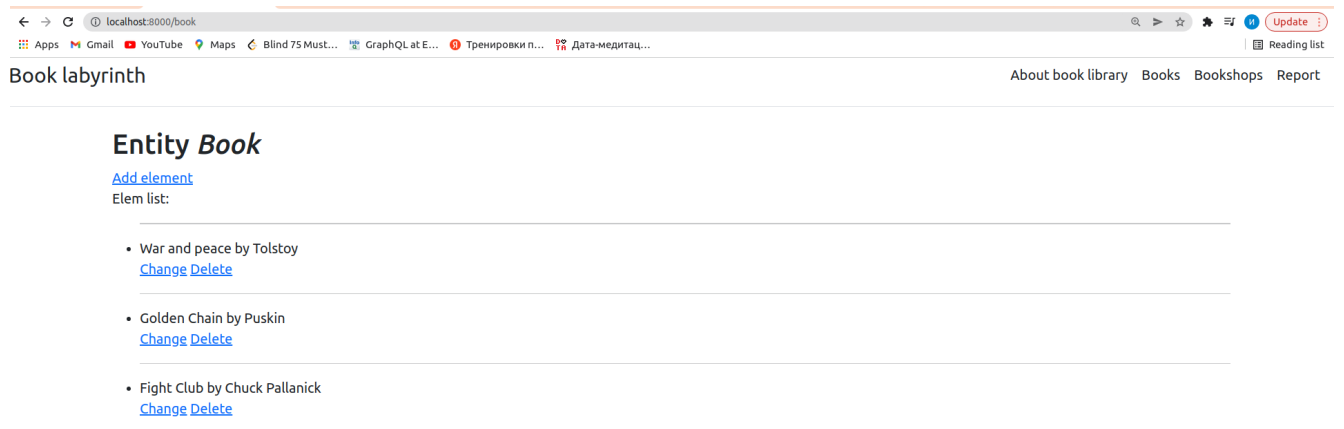
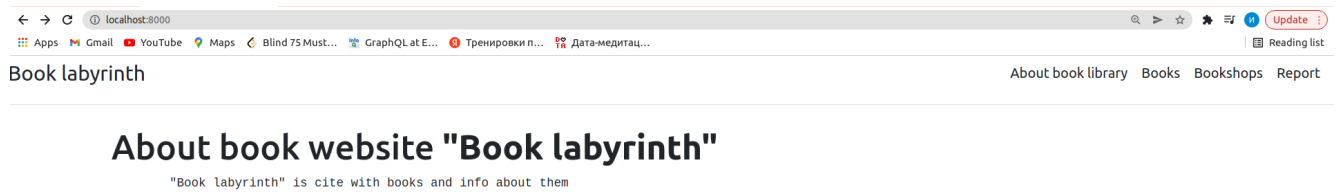
{% if entity == 'Bookshop' %}
<a href='/bookshop/create'>Add element</a>
{% endif %}
{% if entity == 'Book' %}
<a href='/book/create'>Add element</a>
{% endif %}
<p>Elem list:</p>
<ul>
    {% for elem in objects %}
    <hr>
    <li>
        {% if entity == 'Bookshop' %}
        {{elem.name}} at {{elem.address}}<br>
        <a href='{% url "bookshop_update" elem.bookshop_record_id %}'>Change</a>
        <a href='{% url "bookshop_delete" elem.bookshop_record_id %}'>Delete</a>
        {% endif %}
        {% if entity == 'Book' %}
        {{elem.title}} by {{elem.author}}<br>
        <a href='{% url "book_update" elem.book_record_id %}'>Change</a>
        <a href='{% url "book_delete" elem.book_record_id %}'>Delete</a>
        {% endif %}
    </li>
    {% endfor %}
    <hr>
</ul>
{% endblock %}
```

## library/bookInfo/tempates/bookInfo/report.html

```
{% extends 'bookInfo/base.html' %}
{% block title %}
Books
{% endblock %}
{% block content %}
<h2>List of all books:</h2>
<ul>
    {% for book in books %}
    <hr>
    <li>
        <div>
            Title and Author: {{book.title}} {{book.author}} <br>
            BooksShop: {{book.book_record_id.name}} {{book.book_record_id.address}}
        </div>
    </li>
    </ul>
```

```
</div>
</li>
{% endfor %}
<hr>
</ul>
<i>Report formed at: </i>{{date}}
{% endblock %}
```

## Скриншоты сайта





## Deleting record

Are you sure, you want to delete book *War and peace by Tolstoy*?

delete

## Entity *Bookshop*

[Add element](#)

Elem list:

- Amazing books at Moscow  
[Change](#) [Delete](#)
- Good 'ol books at Moscow  
[Change](#) [Delete](#)
- Small bookshop at St. Petersburg  
[Change](#) [Delete](#)

## Delete Record

Are you sure, you want to delete record? Amazing books at Moscow?

Delete

Save

## List of all books:

- Title and Author: War and peace Tolstoy  
BooksShop:
- Title and Author: Golden Chain Puskin  
BooksShop:
- Title and Author: Fight Club Chuck Pallanick  
BooksShop:

Report formed at: 2021-12-19 22:56:01