Московский государственный технический университет им. Н.Э.Баумана

Отчет по лабораторной работе №6 по курсу Разработка интернет приложений

ИСПОЛНИТЕЛЬ:

студент группы ИУ5-52 ________________________

(подпись)

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Оглавление

1. Описание задания лабораторной работы.

В этой лабораторной работе вы познакомитесь с популярной СУБД MySQL, создадите свою базу данных. Также вам нужно будет дополнить свои классы предметной области, связав их с созданной базой. После этого вы создадите свои модели с помощью Django ORM, отобразите объекты из БД с помощью этих моделей и ClassBasedViews.

Для сдачи вы должны иметь:

1. Скрипт с подключением к БД и несколькими запросами.
2. Набор классов вашей предметной области с привязкой к СУБД (класс должен уметь хотя бы получать нужные записи из БД и преобразовывать их в объекты этого класса)
3. Модели вашей предметной области
4. View для отображения списка ваших сущностей

2. Модули.

shop/views.py

```
from django.shortcuts import render
from shop.models import CategoryModel, ItemModel
from django.views import View



def index(request):
    return render(request, 'index.html', {'var_name': "Полина"})


def shopping(request):
    data = CategoryModel.objects.all()
    return render(request, 'product.html', context={'menu': data})


class NewView(View):
    def get(self, request):
        data_search_n = ItemModel.objects.filter(category_id=1).all()
        if len(data_search_n) == 0:
            return render(request, 'search-empty.html')
        else:
            return render(request, 'search.html', context={'search': data_search_n})


class BasicView(View):
    def get(self, request):
        data_search_b = ItemModel.objects.filter(category_id=2).all()
        if len(data_search_b) == 0:
            return render(request, 'search-empty.html')
        else:
            return render(request, 'search.html', context={'search': data_search_b})


class SaleView(View):
    def get(self, request):
        data_search_n = ItemModel.objects.filter(category_id=3).all()
        if len(data_search_n) == 0:
            return render(request, 'search-empty.html')
        else:
            return render(request, 'search.html', context={'search': data_search_n})
```

shop/urls.py

```
from django.conf.urls import url
from . import views
from shop.views import NewView, BasicView, SaleView

urlpatterns = [
    url(r'^$', views.index, name='index'),
    url(r'^shop/', views.shopping, name='shopping'),
    url(r'^search-new/', NewView.as_view()),
    url(r'^search-basic/', BasicView.as_view()),
    url(r'^search-sale/', SaleView.as_view())
]
```

urls.py

```
"""mysite URL Configuration

The `urlpatterns` list routes URLs to views. For more information please see:
    https://docs.djangoproject.com/en/1.10/topics/http/urls/
Examples:
Function views
    1. Add an import:  from my_app import views
    2. Add a URL to urlpatterns:  url(r'^$', views.home, name='home')
Class-based views
    1. Add an import:  from other_app.views import Home
    2. Add a URL to urlpatterns:  url(r'^$', Home.as_view(), name='home')
Including another URLconf
    1. Import the include() function: from django.conf.urls import url, include
    2. Add a URL to urlpatterns:  url(r'^blog/', include('blog.urls'))
"""
from django.conf.urls import include, url
from django.conf.urls.static import static
from django.conf import settings
from django.contrib import admin

urlpatterns = [
    url(r'^admin/', admin.site.urls),
    url(r'', include('shop.urls')),
    url(r'^shop/', include('shop.urls')),
    url(r'^search-new/', include('shop.urls')),
    url(r'^search-basic/', include('shop.urls')),
    url(r'^search-sale/', include('shop.urls')),
] + static(settings.STATIC_URL, document_root=settings.STATIC_ROOT)
```

Шаблоны
base.html

```
{% load staticfiles %}

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>{% block title %}{% endblock %}</title>
    <link rel="stylesheet" type="text/css" href="/static/css/bootstrap.css">
    <link href="/static/css/jumbotron-narrow.css" rel="stylesheet">
    <link href="https://fonts.googleapis.com/css?family=Lobster" rel="stylesheet">
    <style>
    body {
        background: url(/static/3.jpg)  no-repeat center center fixed;
        -webkit-background-size: cover;
        -moz-background-size: cover;
        -o-background-size: cover;
        background-size: cover;
   }
        h3 {
            font-family: 'Lobster';
            font-size: xx-large;
        }
  </style>
</head>
<body>
    <div class="container-fluid">
        <style>
            .link1 {
                font-size: 40px;
                color: black;
            }
        </style>
        <div class="text-center">
            <h3><a href="/" class="link1"> Fashion is our profession </a></h3>
        </div>
    </div>
{% block content %}{% endblock %}

</body>
</html>
```

index.html

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

{% block title %}Welcome to our shop!{% endblock %}
{% block content %}
    <div class="jumbotron">
        <p class="lead">Dear {{ var_name }}! We are glad to see you in our store. Have
a good shopping! Click on the link below to begin. </p>
        <a href="/shop" class="btn btn-primary" role="button" >Go shopping</a>

    </div>
{% endblock %}
```

product.html

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

{% block title %}Our products{% endblock %}
{% block content %}
    <div class="row marketing">
        {% for category in menu %}
            <div class="col-lg-4"  >
                    <div class="panel panel-default">
                         <div class="panel-body bg-info">
                    {% if category.name == 'Sales'  %}
                        <style>
                            .s1 {
                                color: #c12e2a;
                                text-align: center;
                                font-weight: 700;
                            }
                        </style>
                        <h4><p class="s1">{{ category.name }}</p></h4>
                            <div class="caption">
                                <p>{{ category.description }}</p>
                                <div class="s2">
                                <a href="/search-sale" class="btn btn-primary"
role="button">{% include 'search_f.html' with field=category.name %}</a>
                                </div>
                            </div>
                    {% elif category.name != 'Sales'  %}
                    <style>
                            .s2 {
                                text-align: center;
                                font-weight: 700;
                            }
                        </style>
                    <h4> <p class="s2">{{ category.name }}</p></h4>
                            <div class="caption">
                                <p>{{ category.description }}</p>
                                <div class="s2">
                                    {% if category.name == 'New Collection' %}
                                        <a href="/search-new" class="btn btn-primary"
role="button">{% include 'search_f.html' with field=category.name %}</a>
                                    {% elif category.name != 'New Collection' %}
                                        <a href="/search-basic" class="btn btn-primary"
role="button">{% include 'search_f.html' with field=category.name %}</a>
                                    {% endif %}

                                </div>
                            </div>
                    {% endif %}
                    </div>
                    </div>
            </div>
        {% endfor %}
    </div>
{% endblock %}
```

search.html

```
{% extends 'base.html' %}
{% block title %}Search{% endblock %}
{% block content %}
    <div class="container-fluid">
        <div class="blog-header">
            <h1 class="blog-title col-lg-offset-3"><b>Search results</b></h1>
        </div>
        <div class="row">
            <div class="col-lg-8 blog-main">
                {% for item in search %}
                    <section class="panel panel-search">
                    <div class="panel-heading bg-info">
                        <div class="panel-title">
                            <h4> {{  item.name}}<small> item no:{{ item.id}}</small>
</h4>
                        </div>
                    </div>
                    <div class="panel-body ">
                        <div class="row">
                            <div class="col-lg-4">
                                <img src="{{ item.image }}" width="100%"/>
                            </div>
                            <div class="col-lg-4">
                                {{ item.description }}
                            </div>
                        </div>
                    </div>
                </section>
                {% endfor %}
            </div>
            <div class="col-lg-3 blog-sidebar">
                <section class="panel panel-search">
                    <div class="panel-heading bg-info">
                        <div class="panel-title">
                            <h3>Search</h3>
                        </div>
                    </div>
                    <h4><div class="col-lg-offset-1">Filters</div></h4>
                    <ol class="list-unstyled text-center">
                        <li><a href="#">Price low to high</a></li>
                        <li><a href="#">Price high to low</a></li>
                        <li><a href="#">Popularity</a></li>
                    </ol>
                    <div class="panel-body bg-info">
                        <div class="input-group">
                            <form data-key="2af70d95e12e1e4e9344fa7468f8213d00434d93"
action="search" method="get" style="margin-bottom:10px;">
                            <span class="input-group-btn">
                                    <input type="text" class="form-control"
name="query" placeholder="Enter here" value="" />
                                    <button type="submit" class="btn btn-
default">Find</button>
                                </span>
                                </form>
                            </div>
                        </div>
                </section>
            </div>
        </div>
    </div>

{% endblock %}
```

search-empty.html

```
{% extends 'base.html' %}
{% block title %}Search{% endblock %}
{% block content %}
    <div class="container-fluid">
        <div class="blog-header">
            <h1 class="blog-title col-lg-offset-3"><b>Search results</b></h1>
        </div>
        <div class="row">
            <div class="col-lg-8 blog-main">
                <h1 class="blog-title col-lg-offset-4">There are no items:(</h1>
            </div>
            <div class="col-lg-3 blog-sidebar">
                <section class="panel panel-search">
                    <div class="panel-heading bg-info">
                        <div class="panel-title">
                            <h3>Search</h3>
                        </div>
                    </div>
                    <h4><div class="col-lg-offset-1">Filters</div></h4>
                    <ol class="list-unstyled text-center">
                        <li><a href="#">Price low to high</a></li>
                        <li><a href="#">Price high to low</a></li>
                        <li><a href="#">Popularity</a></li>
                    </ol>
                    <div class="panel-body bg-info">
                        <div class="input-group">
                            <form data-key="2af70d95e12e1e4e9344fa7468f8213d00434d93"
action="search" method="get" style="margin-bottom:10px;">
                            <span class="input-group-btn">
                                    <input type="text" class="form-control"
name="query" placeholder="Enter here" value="" />
                                    <button type="submit" class="btn btn-
default">Find</button>
                                </span>
                                </form>
                            </div>
                        </div>
                </section>
            </div>
        </div>
    </div>
```

```
{% endblock %}
```

search-f.html

```
Find yours in {{ field }}!
```

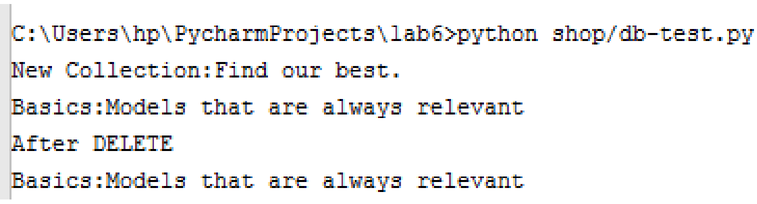
db-test.py

```
import MySQLdb


db = MySQLdb.connect(user='dbuser', password='', host='127.0.0.1', database='shop')
c = db.cursor(MySQLdb.cursors.DictCursor)

c.execute("TRUNCATE TABLE category")
db.commit()

c.execute("""INSERT INTO category (name, description) values (%s,%s), (%s,%s);""",\
          ('New Collection', 'Find our best.', 'Basics', "Models that are always 
relevant"))
db.commit()

c.execute("SELECT * FROM category")
categories=c.fetchall()
for category in categories:
   print("{}:{}".format(category['name'], category['description']))

c.execute("DELETE FROM category where id=1;")
db.commit()

c.execute ("SELECT * FROM category;")
print("After DELETE")
categories=c.fetchall()
for category in categories:
   print("{}:{}".format(category['name'], category['description']))

c.close()
db.close()
```

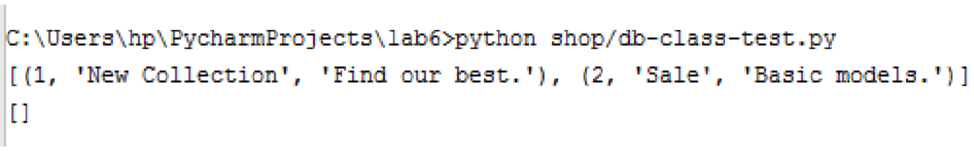
db-class-test.py

```
import MySQLdb


class Connection:
    def __init__(self, user, password, db, host='localhost'):
        self.user = user
        self.host = host
        self.password = password
        self.db = db
        self.__connection= None

    @property
    def connection(self):
        return self.__connection

    def __enter__(self):
        self.connect()

    def __exit__(self, exc_type, exc_val, exc_tb):
        self.disconnect()

    def connect(self):
        if not self.__connection:
            self.__connection = MySQLdb.connect(
                host = self.host,
                user = self.user,
                password = self.password,
                db = self.db
            )

    def disconnect(self):
        if self.__connection:
            self.__connection.close()


class Category:
    def __init__(self, db_connection, name, description, id=None,):
        self.db_connection = db_connection.connection
        self.name = name
        self.description = description
        self.__id = id

    def save(self):
        c = self.db_connection.cursor()
        c.execute("INSERT INTO category (name, description) values (%s, %s);",
(self.name, self.description))
        self.__id = self.db_connection.insert_id()
        self.db_connection.commit()
        c.close()

    def select_all(self):
        c = self.db_connection.cursor()
        c.execute("SELECT * from category")
        items = c.fetchall()
        c.close()
        return items

    def truncate_table(self):
        c = self.db_connection.cursor()
        c.execute("TRUNCATE table category")
        self.db_connection.commit()
        c.close


con = Connection('dbuser', '', 'shop')

with con:
    category = Category(con, 'New Collection', 'Find our best.')
    category.save()
    category = Category(con, 'Sale', 'Basic models.')
    category.save()
    categories = list(category.select_all())
    print(categories)
    category.truncate_table()
    categories = list(category.select_all())
    print(categories)
```

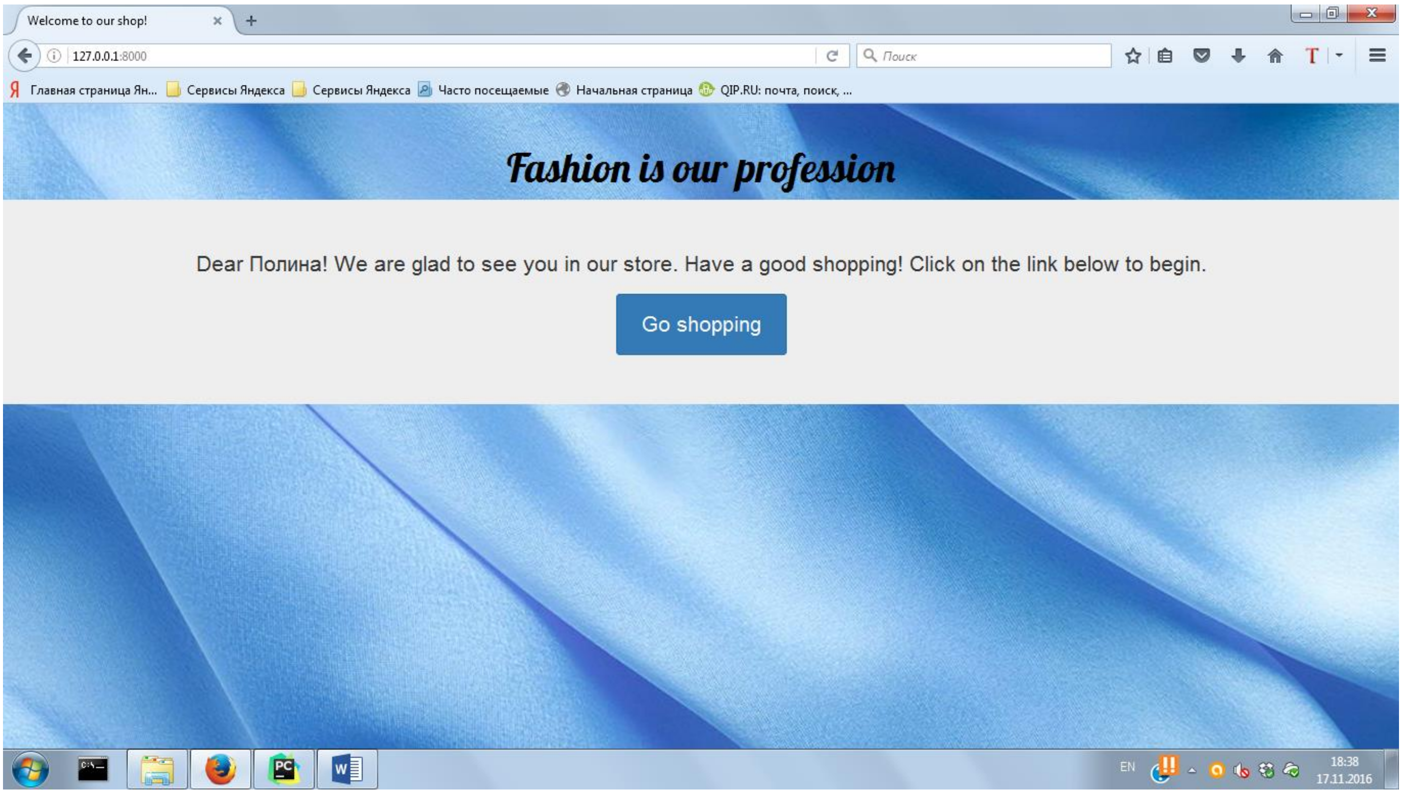
3. Результаты.



```
C:\Users\hp\PycharmProjects\lab6>python shop/db-test.py
New Collection:Find our best.
Basics:Models that are always relevant
After DELETE
Basics:Models that are always relevant
```

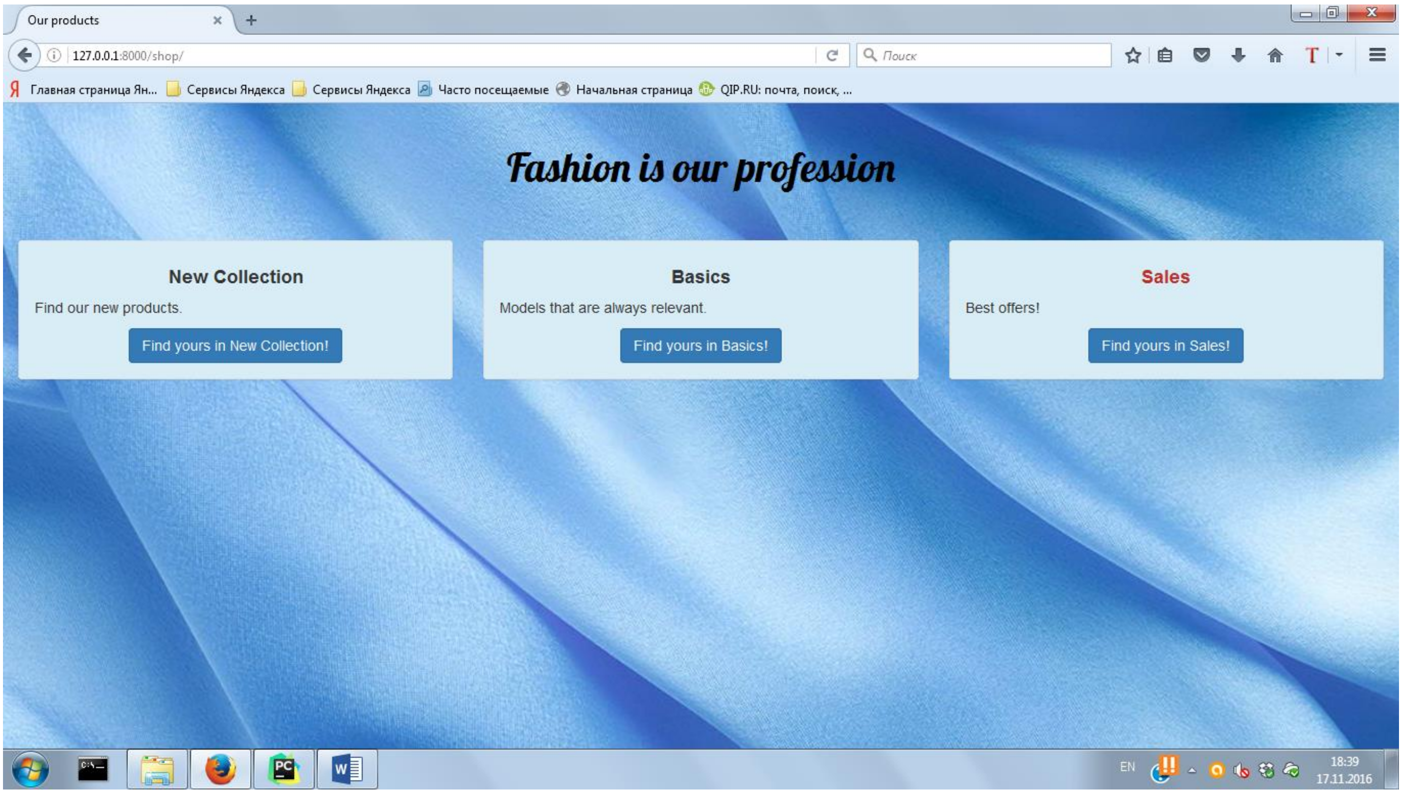


```
C:\Users\hp\PycharmProjects\lab6>python shop/db-class-test.py
[(1, 'New Collection', 'Find our best.'), (2, 'Sale', 'Basic models.')]
[]
```


Welcome to our shop!
127.0.0.1:8000
Поиск
Главная страница Ян... Сервисы Яндекса Сервисы Яндекса Часто посещаемые Начальная страница QIP.RU: почта, поиск, ...
EN
18:38
17.11.2016

Fashion is our profession

Dear Полина! We are glad to see you in our store. Have a good shopping! Click on the link below to begin.


Our products
127.0.0.1:8000/shop/
Поиск
Главная страница Ян... Сервисы Яндекса Сервисы Яндекса Часто посещаемые Начальная страница QIP.RU: почта, поиск, ...
EN
18:39
17.11.2016

Fashion is our profession

New Collection

Find our new products.

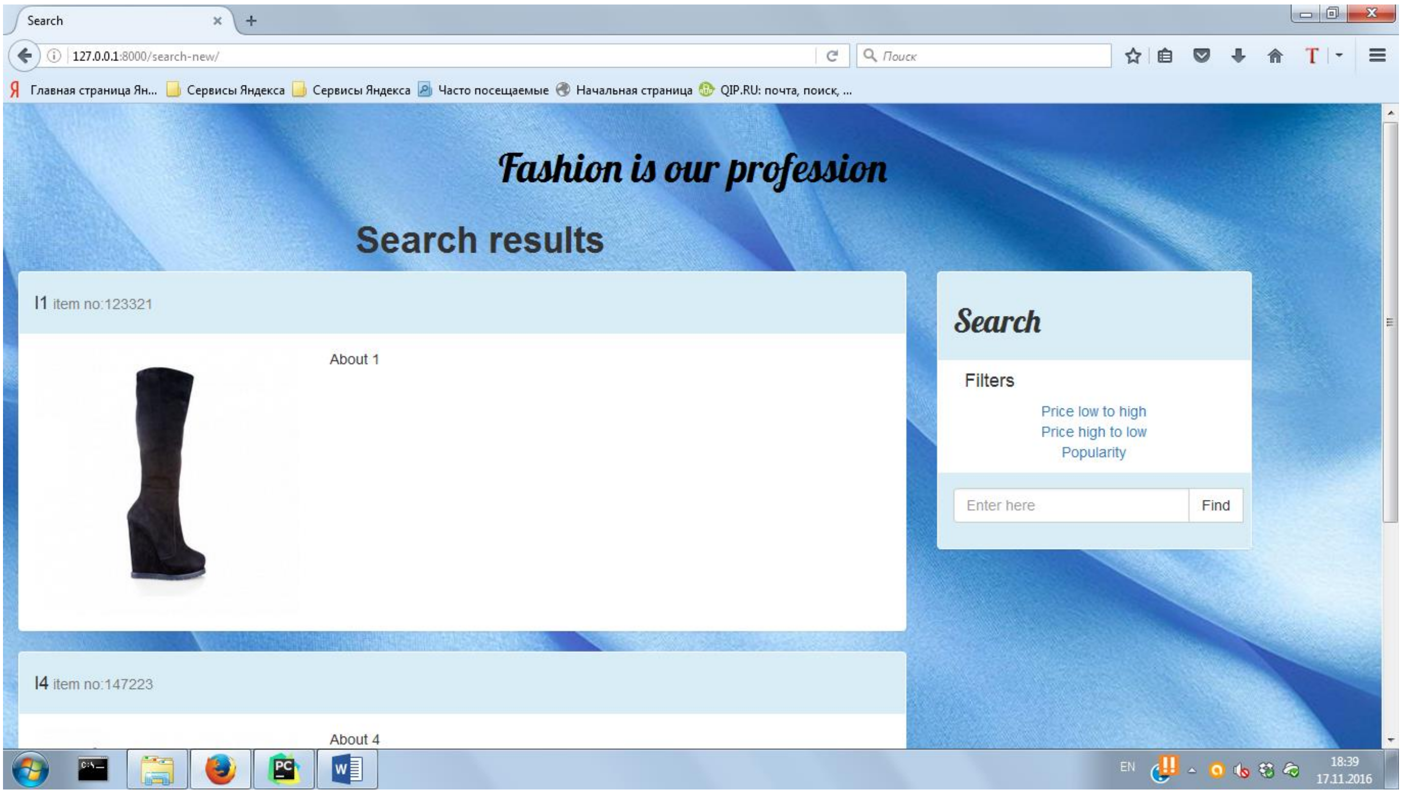
Find yours in New Collection!

Basics

Models that are always relevant.

Sales

Best offers!



Fashion is our profession

Search results

I1 item no:123321

About 1

I4 item no:147223

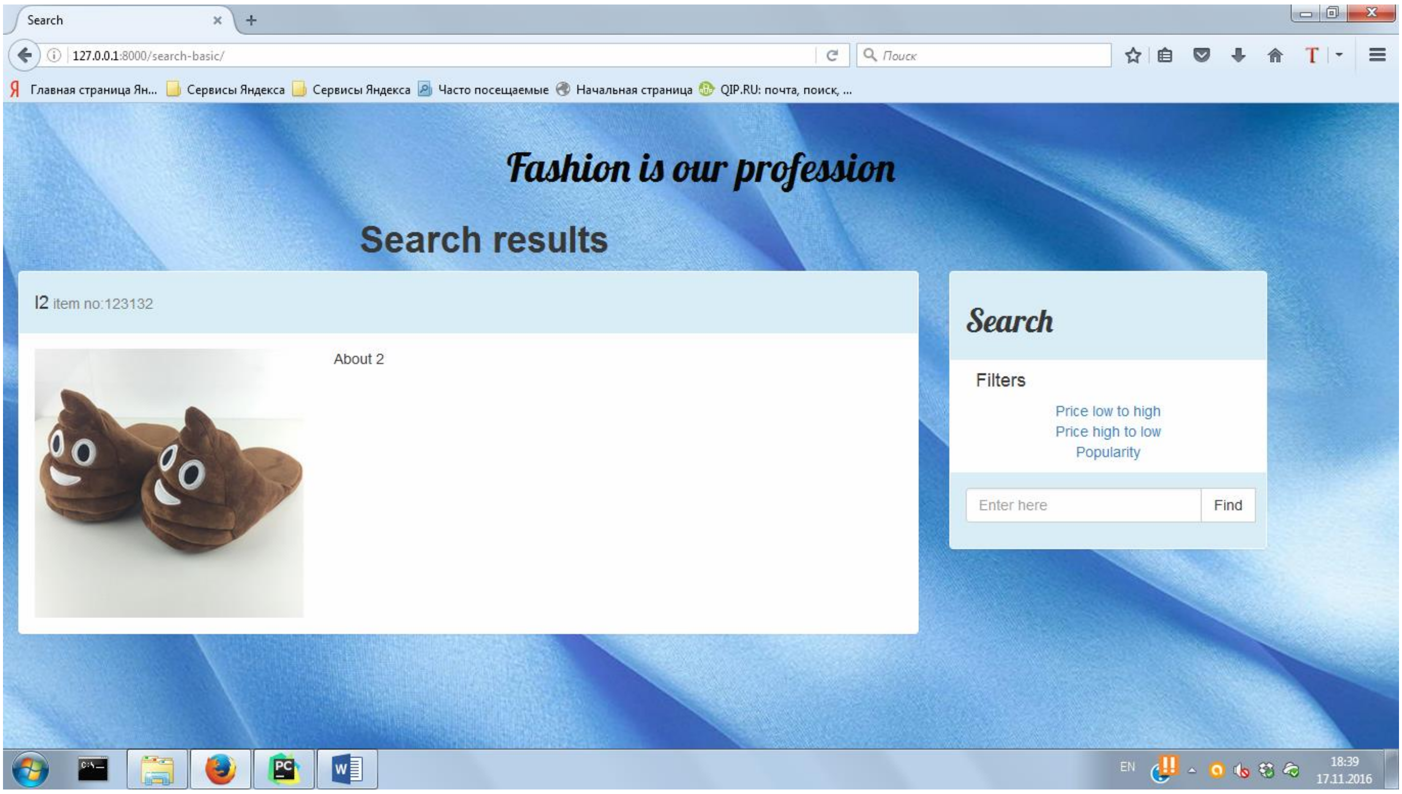
About 4

Search

Filters

Price low to high
Price high to low
Popularity

Enter here | Find



Fashion is our profession

Search results

I2 item no:123132

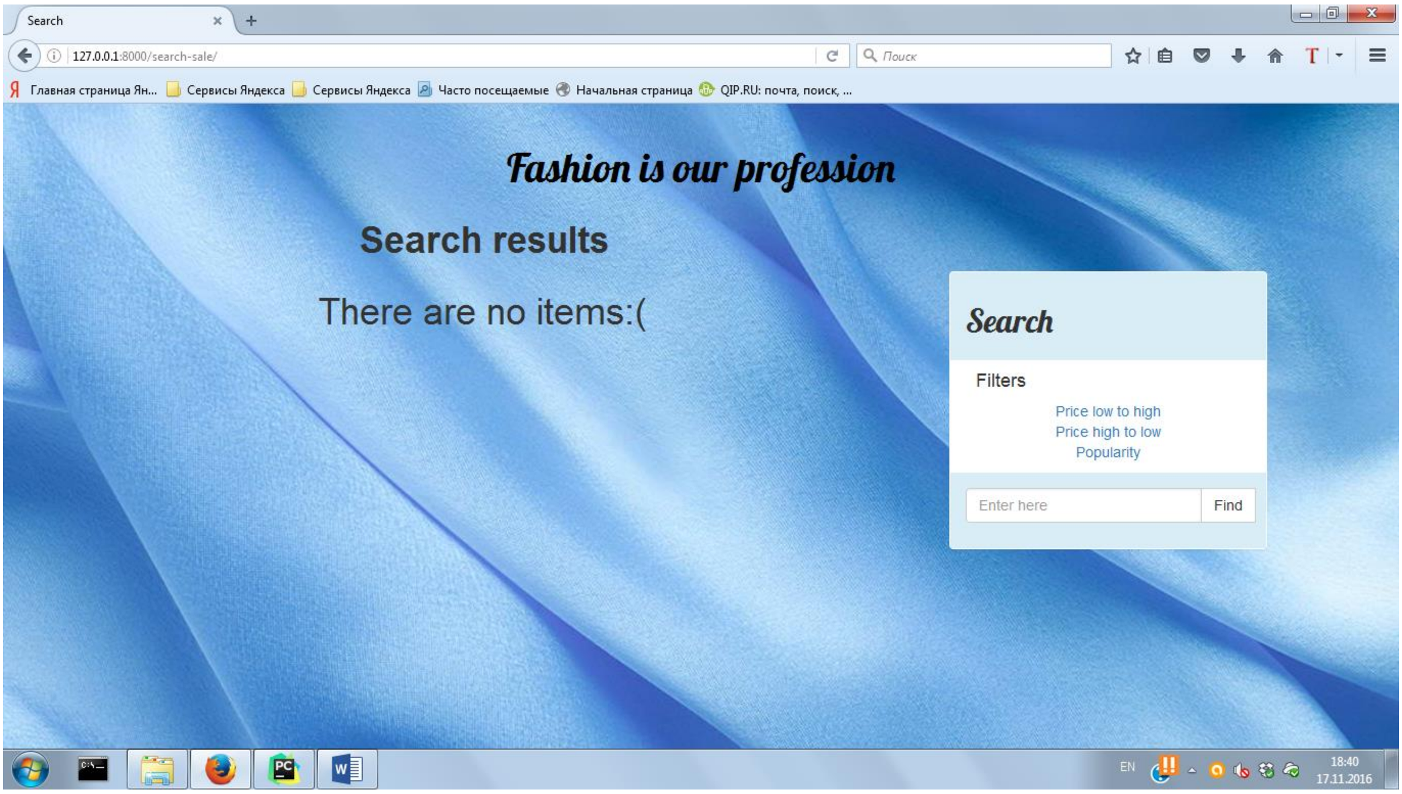
About 2

Search

Filters

Price low to high
Price high to low
Popularity

Enter here | Find



Fashion is our profession

Search results

There are no items:(

Search

Filters

Price low to high
Price high to low
Popularity