Initial Commands

mkdir exam
cd exam
python3 -m venv venv
source venv/bin/activate
pip install django
django-admin startproject myproject .
python manage.py startapp myapp
code .

#django_lab_project/myproject/settings.py

INSTALLED_APPS = [
    'myapp',
]

django_lab_project/myapp/models.py

```python
from django.db import models


class Item(models.Model):
    name = models.CharField(max_length=100)
    quantity = models.IntegerField()
    description = models.TextField(blank=True)

    def __str__(self):
        return f"{self.name} ({self.quantity})"
```


Commands

python manage.py makemigrations myapp

python manage.py migrate
Make myapp/forms.py

```python
from django import forms
from .models import Item


class ItemForm(forms.ModelForm):
    class Meta:
        model = Item
        fields = ['name', 'quantity', 'description']
        widgets = {
            'name': forms.TextInput(attrs={'class': 'form-control',
'placeholder': 'Enter item name'}),
            'quantity': forms.NumberInput(attrs={'class': 'form-control',
'placeholder': 'Enter quantity'}),
            'description': forms.Textarea(attrs={'class': 'form-control',
'placeholder': 'Enter item description', 'rows': 3}),
        }
```

In myapp/views.py

```python
from django.shortcuts import render, redirect, get_object_or_404
from .models import Item


def home(request):
    if request.method == 'POST':
        item_id = request.POST.get('item_id')
        if item_id:
            item = get_object_or_404(Item, pk=item_id)
            item.name = request.POST['name']
            item.quantity = request.POST['quantity']
            item.description = request.POST['description']
            item.save()
        return redirect('home')
    return render(request, 'myapp/home.html', {'items':
Item.objects.all().order_by('name')})
```

```python
def insert_item(request):
    if request.method == 'POST':
        Item.objects.create(
            name=request.POST['name'],
            quantity=request.POST['quantity'],
            description=request.POST['description']
        )
        return redirect('home')
    return render(request, 'myapp/insert_item.html')


def delete_item(request, item_id):
    if request.method == 'POST':
        get_object_or_404(Item, pk=item_id).delete()
    return redirect('home')
```

Make myapp/urls.py

```python
from django.urls import path
from . import views

urlpatterns = [
    path('', views.home, name='home'),
    path('insert/', views.insert_item, name='insert_item'),
    path('delete/<int:item_id>/', views.delete_item, name='delete_item'),
]
```

In myproject/urls.py add

```python
from django.contrib import admin
from django.urls import path,include # add include

urlpatterns = [
    path('admin/', admin.site.urls),
    path('', include('myapp.urls')), # add this line
]
```

myapp/admin.py

```python
from django.contrib import admin
from .models import Item

class ItemAdmin(admin.ModelAdmin):
    list_display = ('name', 'quantity', 'description')
    search_fields = ('name', 'description')
    ordering = ('name',)


admin.site.register(Item, ItemAdmin)
```

Run command

python manage.py createsuperuser

myapp/templates/myapp/base.html

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>{% block title %}My Lab Project{% endblock %}</title>
    <!-- Add link to Bootstrap CSS for basic styling (optional) -->
    <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/css/bootstrap.min.
css" rel="stylesheet">
    <style>
        body { padding: 20px; }
        .action-forms form { display: inline-block; margin-left: 5px; }
    </style>
</head>
<body>
    <div class="container">
        {% block content %}
        {% endblock %}
```

```
    </div>
    <!-- Add link to Bootstrap JS bundle (optional) -->
    <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/js/bootstrap.bundle
.min.js"></script>
</body>
</html>
```

myapp/templates/myapp/home.html

```
{% extends 'myapp/base.html' %}
{% block title %}Items{% endblock %}
{% block content %}
    <div class="d-flex mb-3">
        <h1>Items</h1>
        <a href="{% url 'insert_item' %}" class="btn btn-primary
ms-auto">Add</a>
    </div>

    <table class="table">
        <tr>
            <th>Name</th>
            <th>Qty</th>
            <th>Desc</th>
            <th>Actions</th>
        </tr>
        {% for i in items %}
            <tr>
                <td>{{i.name}}</td>
                <td>{{i.quantity}}</td>
                <td>{{i.description|default:"-"}}</td>
                <td>
                    <button
onclick="e('{{i.id}}','{{i.name|escapejs}}','{{i.quantity}}','{{i.descript
ion|default:''|escapejs}}')"
                            class="btn-sm btn-warning">Edit</button>
                    <form class="d-inline ms-1" onsubmit="return
confirm('Delete?');"
```

```html
                            action="{% url 'delete_item' i.id %}"
method="post">
                            {% csrf_token %}
                            <button class="btn-sm btn-danger">Del</button>
                        </form>
                    </td>
                </tr>
            {% empty %}
                <tr><td colspan="4" class="text-center">No items</td></tr>
            {% endfor %}
        </table>

        <div class="modal fade" id="m">
            <div class="modal-dialog">
                <div class="modal-content">
                    <div class="modal-header">
                        <h5>Edit</h5>
                        <button class="btn-close"
data-bs-dismiss="modal"></button>
                    </div>
                    <form method="post">
                        <div class="modal-body">
                            {% csrf_token %}
                            <input type="hidden" name="item_id">
                            <input class="form-control mb-2" name="name"
required>
                            <input type="number" class="form-control mb-2"
name="quantity" required>
                            <textarea class="form-control" name="description"
rows="2"></textarea>
                        </div>
                        <div class="modal-footer">
                            <button type="button" class="btn-sm btn-secondary"
data-bs-dismiss="modal">Cancel</button>
                            <button class="btn-sm btn-primary">Save</button>
                        </div>
                    </form>
                </div>
            </div>
        </div>
```

```
    <script>
        function e(i,n,q,d) {
            document.querySelector('[name="item_id"]').value = i;
            document.querySelector('[name="name"]').value = n;
            document.querySelector('[name="quantity"]').value = q;
            document.querySelector('[name="description"]').value = d;
            new bootstrap.Modal(document.getElementById('m')).show();
        }
    </script>
{% endblock %}
```

Insert_item.html

```
{% extends 'myapp/base.html' %}
{% block title %}Insert Item{% endblock %}
{% block content %}
<div class="container mt-4">
    <h1>Insert New Item</h1>
    <form method="post">
        {% csrf_token %}
        <div class="mb-3">
            <label class="form-label">Name</label>
            <input type="text" name="name" class="form-control" required>
        </div>
        <div class="mb-3">
            <label class="form-label">Quantity</label>
            <input type="number" name="quantity" class="form-control"
required>
        </div>
        <div class="mb-3">
            <label class="form-label">Description</label>
            <textarea name="description" class="form-control"
rows="3"></textarea>
        </div>
        <button type="submit" class="btn btn-primary">Save</button>
        <a href="{% url 'home' %}" class="btn btn-secondary">Cancel</a>
```

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

To run

python manage.py runserver