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>
</head>
<body>
  {% block content %}
  {% endblock %}
</body>
</html>
```

myapp/templates/myapp/home.html

```
{% extends 'myapp/base.html' %}
{% block title %}Items{% endblock %}
{% block content %}
  <h1>Items</h1>
  <a href="{% url 'insert_item' %}">Add</a>

  <table border="1">
      <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}}')">Edit</button>
                  <form style="display: inline;" onsubmit="return
confirm('Delete?');"
                        action="{% url 'delete_item' i.id %}"
method="post">
                      {% csrf_token %}
                      <button>Del</button>
                  </form>
              </td>
          </tr>
      {% empty %}
          <tr><td colspan="4" style="text-align: center;">No
items</td></tr>
      {% endfor %}
  </table>

  <div id="m" style="display: none; position: fixed; top: 50%; left: 50%;
transform: translate(-50%, -50%); background: white; padding: 20px;
border: 1px solid black;">
```

```
        <h5>Edit</h5>
        <button
onclick="document.getElementById('m').style.display='none'">Close</button>
        <form method="post">
            {% csrf_token %}
            <input type="hidden" name="item_id">
            <input name="name" required>
            <br>
            <input type="number" name="quantity" required>
            <br>
            <textarea name="description" rows="2"></textarea>
            <br>
            <button type="button"
onclick="document.getElementById('m').style.display='none'">Cancel</button
>
            <button>Save</button>
        </form>
    </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;
            document.getElementById('m').style.display = 'block';
        }
    </script>
{% endblock %}
```

Insert_item.html

```
{% extends 'myapp/base.html' %}
{% block title %}Insert Item{% endblock %}
{% block content %}
  <h1>Insert New Item</h1>
```

```
<form method="post">
    {% csrf_token %}
    <label>Name</label>
    <input type="text" name="name" required>
    <br>
    <label>Quantity</label>
    <input type="number" name="quantity" required>
    <br>
    <label>Description</label>
    <textarea name="description" rows="3"></textarea>
    <br>
    <button type="submit">Save</button>
    <a href="{% url 'home' %}">Cancel</a>
</form>
{% endblock %}
```

To run

python manage.py runserver