Django Question

1. **Question:** How do you create a new Django project?
   Answer: django-admin startproject project_name
2. **Question:** How do you create a new app in Django?
   Answer: python manage.py startapp app_name
3. **Question:** How do you run the development server?
   Answer: python manage.py runserver
4. **Question:** How do you create a Django superuser?
   Answer: python manage.py createsuperuser
5. **Question:** How do you check the installed Django version?
   Answer: python -m django --version
6. **Question:** How do you create database migrations for a model?
   Answer: python manage.py makemigrations
7. **Question:** How do you apply migrations to the database?
   Answer: python manage.py migrate
8. **Question:** How do you define a model in Django?

   a.
   ```python
   from django.db import models


   class MyModel(models.Model):
       name = models.CharField(max_length=100)
   ```
9. **Question:** How do you fetch all records from a model?
   Answer: MyModel.objects.all()
10. **Question:** How do you fetch a single record by ID in Django models?
    Answer: MyModel.objects.get(id=1)
11. **Question:** How do you delete a record in Django?

    ```python
    obj = MyModel.objects.get(id=1)
    obj.delete()
    ```

12. **Question:** How do you update a record in Django?
    Answer:
    ```python
    obj = MyModel.objects.get(id=1)
    obj.name = "New Name"
    obj.save()
    ```
13. **Question:** How do you register a model in the admin panel?
    Answer:

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

admin.site.register(MyModel)
```

14. **Question:** How do you define a URL in Django?
    Answer:

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

urlpatterns = [
    path('home/', views.home, name='home'),
]
```

15. **Question: How do you include URLs from another app?**
    Answer:

```python
from django.urls import include

urlpatterns = [
    path('blog/', include('blog.urls')),
]
```

16. **Question: How do you create a class-based view in Django?**
    Answer:

```python
from django.views import View
from django.http import HttpResponse

class MyView(View):
    def get(self, request):
        return HttpResponse("Hello, World!")
```

17. **Question: How do you enable static files in Django?**
    Answer: Add STATIC_URL and STATICFILES_DIRS to settings.py.

18. **Question: How do you configure media files in Django?**
    Answer: Add MEDIA_URL and MEDIA_ROOT to settings.py.

19. **Question: How do you create a serializer in Django REST Framework?**
    Answer:

```python
from rest_framework import serializers
from .models import MyModel

class MyModelSerializer(serializers.ModelSerializer):
    class Meta:
        model = MyModel
        fields = '__all__'
```

20. Question: How do you implement a foreign key relationship in Django models?
   Answer:

```python
class Author(models.Model):
    name = models.CharField(max_length=100)

class Book(models.Model):
    title = models.CharField(max_length=100)
    author = models.ForeignKey(Author, on_delete=models.CASCADE)
```

21. Question: How do you implement a many-to-many relationship in Django models?
   Answer:

```python
class Student(models.Model):
    name = models.CharField(max_length=100)

class Course(models.Model):
    title = models.CharField(max_length=100)
    students = models.ManyToManyField(Student)
```

22. Question: How do you implement a one-to-one relationship in Django models?
   Answer:

```python
class Profile(models.Model):
    user = models.OneToOneField(User, on_delete=models.CASCADE)
    bio = models.TextField()
```

23. Question: How do you create a custom user model in Django?
   Answer:

```python
from django.contrib.auth.models import AbstractUser

class CustomUser(AbstractUser):
    phone_number = models.CharField(max_length=15)
```

24. Question: How do you set a custom user model in Django?
   Answer: Add the following in settings.py:

```python
AUTH_USER_MODEL = 'app_name.CustomUser'
```

25. Question: How do you deploy a Django project to production?
   Answer: Use tools like Gunicorn, Nginx, and configure settings like DEBUG=False and ALLOWED_HOSTS.

26. Question: How do you create a template in Django?
   Answer: Create an HTML file in the templates folder and use Django template syntax.

27. Question: How do you render a template in Django?
   Answer:

```python
from django.shortcuts import render

def my_view(request):
    return render(request, 'template_name.html', context)
```

28. Question: How do you add context data to a template in Django?
Answer:

```python
def my_view(request):
    context = {'key': 'value'}
    return render(request, 'template_name.html', context)
```

29. Question: How do you use template inheritance in Django?
Answer: Use {% extends 'base.html' %} in the child template.

30. Question: How do you use get_object_or_404 in Django?
Answer:

```python
from django.shortcuts import get_object_or_404
obj = get_object_or_404(MyModel, pk=1)
```

31. Question: How do you restrict access to a view in Django?
Answer: Use the @login_required decorator.

32. Question: How do you connect multiple databases in Django?
Answer: Configure multiple databases in the DATABASES setting in settings.py.

33. Question: How do you set a field as unique in Django models?
Answer:

```python
class MyModel(models.Model):
    email = models.EmailField(unique=True)
```

34. Question: How do you handle form submissions in Django?
Answer:

```python
def my_view(request):
    if request.method == 'POST':
        form = MyForm(request.POST)
        if form.is_valid():
            form.save()
```

35. Question: How do you set a custom path for static files?
Answer:

```python
STATIC_URL = '/static/'
STATICFILES_DIRS = [BASE_DIR / "static"]
```

36. **Question: How do you make a field optional in a Django model?**
    Answer: Add blank=True and null=True to the field:

```python
field_name = models.CharField(max_length=100, blank=True, null=True)
```

37. **Question: How do you use Django's built-in CSRF protection?**
    Answer: Include {% csrf_token %} in your forms.

38. **Question: How do you serve media files in development?**
    Answer: Add the following to urls.py:

```python
from django.conf import settings
from django.conf.urls.static import static

urlpatterns += static(settings.MEDIA_URL, document_root=settings.MEDIA_ROOT)
```