

### Annotating Exercises

Write code to get:

- Customers with their last order ID
- Collections and count of their products
- Customers with more than 5 orders
- Customers and the total amount they've spent
- Top 5 best-selling products and their total sales

Solutions are on the next page.

### Solutions

```
# Customers and their last order ID
queryset = Customer.objects.annotate(last_order_id=Max('order__id'))

# Collections and count of their products
queryset = Collection.objects.annotate(products_count=Count('product'))

# Customers with more than 5 orders
queryset = Customer.objects \
    .annotate(orders_count=Count('order')) \
    .filter(orders_count__gt=5)
```

```
# Customers and the total amount they've spent
queryset = Customer.objects.annotate(
    total_spent=Sum(
        F('order__orderitem__unit_price') *
        F('order__orderitem__quantity'))

# Top 5 best-selling products and their total sales
queryset = Product.objects \
    .annotate(
        total_sales=Sum(
            F('orderitem__unit_price') *
            F('orderitem__quantity')) \
    .order_by('-total_sales')[:5]
```