Coding Challenge 2: ShopsRUs

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Who is ShopsRUs?

ShopsRUs is an existing retail outlet. They would like to provide discount to their customers on all their web/mobile platforms. They require a set of APIs to be built that provide capabilities to calculate discounts, generate the total costs and generate the invoices for customers

Technology constraints

- At the digital factory, we currently have a microservices architecture with services written in .NET Core. We would like you to develop a single service in .NET Core that exposes several REST endpoints (see next page)
- You can use whatever database you want should you like to(we recommend using SQLite or Postgres)
- You should include a README file that has instructions for us to get the solution running on our machines

What are we looking to test?

- The overall software architecture of the application
- The structure and **quality of the code itself**
- The use of well-known patterns for REST and .NET development
- Your ability to model the problem domain (data models and APIs)
- Bonus points if you include tests in your solution

What are we *not* looking to test?

- We don't expect you to implement authentication or authorization

External Resources

- Building a RESTful service in ASP .NET Core
- Testing in .NET Core

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Exercise 4: ShopsRUs

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Your APIs should provide the following functionality to downstream consumers of the API (in a **RESTful** way):

Customers

- Get a list of all customers
- Create a customer
- Get a specific customer by ID
- Get a specific customer by name

Invoice

- Get total invoice amount given a bill

ACCEPTANCE CRITERIA

- ☐ If the user is an affiliate of the store, user gets a 10% discount
- ☐ If the user is an employee of the store, user gets a 30% discount
- ☐ If the user has been a customer for over 2 years, user gets a 5% discount
- ☐ For every $100 on the bill, there would be a $5 discount (e.g. for $990, you get $45 as a discount)
- ☐ The percentage based discounts do not apply on groceries
- ☐ A user can get only one of the percentage based discounts on a bill

DISCOUNTS

- Get a list of all discounts
- Get a specific discount percentage by type
- Add a new discount type

TIP #1: focus on defining a very clear data model for customers, invoices and discounts. You should include the SQL create table statements etc. in your code base.

TIP #2: invest time in building some 'seed data' that covers all the use cases you want to demonstrate