JAVA INTERNSHIP PROGRAMME AT ACCESA

Coding Challenge: Price Comparator Backend

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CODING CHALLENGE

Introduction

Welcome to our Software Engineer Internship Coding Challenge! The purpose of this challenge is to assess your backend development skills by working on a project that mirrors real-world business requirements. We want to see how you approach problem-solving and translate business needs into a functional backend solution. This challenge emphasizes understanding requirements and designing a robust system; you have flexibility in choosing specific libraries and tools beyond the core language.

Project Overview: "Price Comparator - Market"

The goal of this project is to build the backend for a "Price Comparator - Market" application. Imagine a service that helps users compare prices of everyday grocery items across different supermarket chains (e.g., Lidl, Kaufland, Profi). The system should allow users to track price changes, find the best deals, and manage their shopping lists effectively.

Core Business Requirements

Your backend solution should aim to implement the following features. Each feature earns points independently, so submit whatever you complete—partial solutions are welcome. Think of the list as a product roadmap: if you spot a sensible improvement or a new feature that would add value, feel free to build and document it for extra credit.

Feature Proposal/Ideas:

- **Daily Shopping Basket Monitoring:**
  - Help users split their basket into shopping lists that optimise for cost savings

- **Best Discounts:**
  - List products with the highest current percentage discounts across all tracked stores.

- **New Discounts:**
  - List discounts that have been newly added (e.g., within the last 24 hours).

- **Dynamic Price History Graphs:**

  o Provide data points that would allow a frontend to calculate and display price trends over time for individual products.

  o This data should be filterable by store, product category, or brand.

- **Product Substitutes & Recommendations:**

  o Highlight "value per unit" (e.g., price per kg, price per liter) to help identify the best buys, even if the pack size differs.

- **Custom Price Alert:**

  o Allow users to set a target price for a product. The system should be able to identify when a product's price drops to or below that target.

Data Structure Guidelines

The primary data will come from CSV files. We have attached at the end of the document sample CSV files based on the structures below to demonstrate the functionality.

- **Product Price Data:**

  o Filename format: storename_date.csv (e.g., lidl_2025-05-08.csv, kaufland_2025-05-08.csv)

  o Note: Expect that the product base might differ by 10-20% between stores. For comparison, strive for identical product_name for the same items across stores. grammage refers to the quantity (e.g., 1, 500), and unit refers to the unit of measure (e.g., litru, kg, gram, bucata).

- **Discount Data:**

  o Filename format: storename_discountdate.csv (e.g., lidl_discount_2025-05-08.csv)

Data Source Considerations

- For this challenge, you are **not** expected to build web crawlers or PDF scrapers.

- **You should create your own datasets beyond the sample CSV. These datasets should be sufficient to** demonstrate the implemented features. Make them realistic enough to test your logic (e.g., include some overlapping products across stores, varying prices, and discounts).

- The following are ideas for where such data might originate in a real-world scenario (for context only):

  - Lidl/Kaufland/Profi flyers (PDF or HTML).

  - Official retailer websites.

  - Price catalog databases (e.g., eMAG Marketplace, Bringo, Google Shopping Romania – API access might be complex and is not required here).

Technical Stack

- **Primary Programming Language: Java**

- **Other Technologies:** You are free to use any other Java-compatible technologies, libraries, or frameworks you deem necessary or appropriate for the backend. This could include:

  - Build tools (e.g., Maven, Gradle).

  - Frameworks (e.g., Spring Boot, Quarkus, Micronaut - optional, you can also build without a heavy framework).

  - Databases (if you choose to use a DB beyond CSV parsing, or even a NoSQL option if you feel it's justified)

  - Libraries for CSV parsing, date/time manipulation, etc.

- **Frontend (FE):** No frontend development is required. The focus is purely on the backend logic and exposing functionalities

Deliverables

1. **Git Repository Link:**

   a. A link to a Git repository (e.g., on GitHub, GitLab) containing the complete source code of your backend application.

   b. The repository should have a clear commit history, reflecting your development process.

   c. Include a README.md file that explains:

      i. A brief overview of your project structure.

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    ii.   Instructions on how to build and run the application.

    iii.   Any assumptions made or simplifications.

    iv.   How to use the implemented features (e.g., API endpoints and example requests if applicable).

2. **Video Demonstration Link:**

a. A short video (maximum 5-10 minutes) demonstrating the implemented features.

b. The video should showcase the functionality (e.g., by calling your API endpoints with sample data or showing console logs from service method calls).

c. You can briefly walk through key parts of your code structure and explain your design choices.

Submission Process

- You will submit your deliverables via a Microsoft Forms link, which will be provided to you by the recruitment team.

- The form will require you to provide:

o Your Full Name

o Your Email Address

o The link to your Git Repository

o The link to your Video Demonstration

- Note: Make sure the video and git repository is available for access for 1 week after the submission final date

Evaluation Criteria

Your submission will be evaluated based on the following criteria:

- **Functionality (30%):**

o Correct and robust implementation of the specified business requirements (core features, analytical aspects, notifications).

o Accuracy of data processing, calculations, and comparisons.

- Effective handling of sample data and edge cases presented in your data.

- **Solution Design (30%):**

  - Soundness of your overall backend design.

  - Appropriate choices for structuring your application (e.g., services, controllers, data access objects).

  - How data is managed, processed, and accessed.

  - Thoughtfulness regarding potential scalability or extensibility (even if not fully implemented).

- **Code Quality & Testing (20%):**

  - Clarity, readability, and organization of your Java code.

  - Adherence to Java best practices and coding conventions.

  - Modularity, maintainability, and good separation of concerns (e.g., distinct layers for data access, business logic).

  - Efficient use of data structures and algorithms where applicable.

- **Documentation & Presentation (20%):**

  - Clarity and completeness of the README.md file.

  - Effectiveness of the video demonstration in showcasing the project's capabilities and your understanding.

  - Well-commented code where necessary to explain complex logic.

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Sample Data Files & Schemas

1. lidl_2025-05-01.csv

product_id;product_name;product_category;brand;package_quantity;package_unit;price;
currency
P001;lapte zuzu;lactate;Zuzu;1;l;9.90;RON
P002;iaurt grecesc;lactate;Lidl;0.4;kg;11.50;RON
P005;ouă mărimea M;ouă;Lidl;10;buc;13.20;RON
P008;brânză telemea;lactate;Pilos;0.3;kg;12.80;RON
P011;pâine albă;panificație;Lidl;500;g;3.50;RON
P014;roșii cherry;legume și fructe;Lidl;250;g;6.80;RON
P017;piept pui;carne;Lidl;1;kg;28.50;RON
P020;spaghetti nr.5;paste făinoase;Barilla;500;g;5.80;RON
P021;zahăr tos;alimente de bază;Lidl;1;kg;4.40;RON
P024;apă plată;băuturi;Aqua Carpatica;2;l;5.20;RON
P026;banane;legume și fructe;Lidl;1;kg;6.10;RON
P028;ulei floarea-soarelui;alimente de bază;Bunica;1;l;9.20;RON
P031;biscuiți cu unt;gustări;Deluxe;0.2;kg;7.10;RON
P034;cafea măcinată;cafea;Davidoff;0.25;kg;22.40;RON
P037;detergent lichid;produse de menaj;Persil;2.5;l;49.90;RON
P040;șampon păr gras;îngrijire personală;Head & Shoulders;400;ml;17.80;RON
P043;hârtie igienică 3 straturi;produse de menaj;Zewa;10;role;18.90;RON
P046;piper negru măcinat;condimente;Kotanyi;50;g;6.00;RON
P049;vin alb demisec;băuturi;Jidvei;0.75;l;23.50;RON
P052;ciocolată neagră 70%;gustări;Fin Carre;100;g;3.90;RON

2. profi_2025-05-01.csv

product_id;product_name;product_category;brand;package_quantity;package_unit;price;
currency
P001;lapte zuzu;lactate;Zuzu;1;l;12.90;RON
P002;iaurt grecesc;lactate;Lidl;0.4;kg;11.50;RON
P005;ouă mărimea M;ouă;Lidl;10;buc;12.20;RON
P008;brânză telemea;lactate;Pilos;0.3;kg;12.80;RON
P011;pâine albă;panificație;Lidl;500;g;3.50;RON
P014;roșii cherry;legume și fructe;Lidl;250;g;8.80;RON
P017;piept pui;carne;Lidl;1;kg;26.50;RON

P020;spaghetti nr.5;paste făinoase;Barilla;500;g;5.80;RON
P021;zahăr tos;alimente de bază;Lidl;1;kg;4.40;RON
P024;apă plată;băuturi;Aqua Carpatica;2;l;5.20;RON
P026;banane;legume și fructe;Lidl;1;kg;6.10;RON
P028;ulei floarea-soarelui;alimente de bază;Bunica;1;l;9.20;RON
P031;biscuiți cu unt;gustări;Deluxe;0.2;kg;7.10;RON
P034;cafea măcinată;cafea;Davidoff;0.25;kg;22.40;RON
P037;detergent lichid;produse de menaj;Persil;2.5;l;49.90;RON
P040;șampon păr gras;îngrijire personală;Head & Shoulders;400;ml;17.80;RON
P043;hârtie igienică 3 straturi;produse de menaj;Zewa;10;role;18.90;RON
P046;piper negru măcinat;condimente;Kotanyi;50;g;6.00;RON
P049;vin alb demisec;băuturi;Jidvei;0.75;l;23.50;RON
P052;ciocolată neagră 70%;gustări;Fin Carre;100;g;3.90;RON

3. kaufland_2025-05-01.csv

product_id;product_name;product_category;brand;package_quantity;package_unit;price;currency
P001;lapte zuzu;lactate;Zuzu;1;l;10.10;RON
P003;iaurt grecesc;lactate;Olympus;0.4;kg;11.80;RON
P006;ouă mărimea M;ouă;Ferma Veche;10;buc;13.50;RON
P009;brânză telemea;lactate;Hochland;0.3;kg;13.10;RON
P012;pâine albă;panificație;K-Classic;500;g;3.60;RON
P015;roșii cherry;legume și fructe;K-Bio;250;g;7.00;RON
P018;piept pui;carne;Agricola;1;kg;27.90;RON
P020;spaghetti nr.5;paste făinoase;Barilla;500;g;5.90;RON
P022;zahăr tos;alimente de bază;Mărgăritar;1;kg;4.50;RON
P025;apă plată;băuturi;Dorna;2;l;5.30;RON
P027;banane;legume și fructe;Generic;1;kg;6.20;RON
P029;ulei floarea-soarelui;alimente de bază;Floriol;1;l;9.50;RON
P032;biscuiți cu unt;gustări;Milka;0.2;kg;7.50;RON
P035;cafea măcinată;cafea;Jacobs;0.25;kg;23.00;RON
P038;detergent lichid;produse de menaj;Ariel;2.5;l;50.50;RON
P041;șampon păr gras;îngrijire personală;Elseve;400;ml;18.00;RON
P044;hârtie igienică 3 straturi;produse de menaj;Pufina;10;role;19.20;RON
P047;piper negru măcinat;condimente;Fuchs;50;g;6.10;RON
P050;vin alb demisec;băuturi;Recas;0.75;l;24.00;RON

P053;ciocolată neagră 70%;gustări;Heidi;100;g;4.10;RON
P056;cartofi albi;legume și fructe;Generic;1;kg;3.20;RON
P058;ceapă galbenă;legume și fructe;Generic;1;kg;2.90;RON
P059;morcovi;legume și fructe;Generic;0.5;kg;2.50;RON
P060;suc portocale;băuturi;Cappy;1;l;7.80;RON
P062;cașcaval;lactate;Delaco;0.25;kg;15.00;RON

4. lidl_2025-05-08.csv

product_id;product_name;product_category;brand;package_quantity;package_unit;price;currency
P001;lapte zuzu;lactate;Zuzu;1;l;9.80;RON
P002;iaurt grecesc;lactate;Lidl;0.4;kg;11.60;RON
P005;ouă mărimea M;ouă;Lidl;10;buc;13.10;RON
P008;brânză telemea;lactate;Pilos;0.3;kg;12.90;RON
P011;pâine albă;panificație;Lidl;500;g;3.40;RON
P014;roșii cherry;legume și fructe;Lidl;250;g;6.90;RON
P017;piept pui;carne;Lidl;1;kg;28.90;RON
P020;spaghetti nr.5;paste făinoase;Barilla;500;g;5.70;RON
P021;zahăr tos;alimente de bază;Lidl;1;kg;4.30;RON
P024;apă plată;băuturi;Aqua Carpatica;2;l;5.10;RON
P026;banane;legume și fructe;Lidl;1;kg;6.00;RON
P028;ulei floarea-soarelui;alimente de bază;Bunica;1;l;9.30;RON
P031;biscuiți cu unt;gustări;Deluxe;0.2;kg;7.00;RON
P034;cafea măcinată;cafea;Davidoff;0.25;kg;22.60;RON
P037;detergent lichid;produse de menaj;Persil;2.5;l;49.50;RON
P040;șampon păr gras;îngrijire personală;Head & Shoulders;400;ml;17.90;RON
P043;hârtie igienică 3 straturi;produse de menaj;Zewa;10;role;18.80;RON
P046;piper negru măcinat;condimente;Kotanyi;50;g;6.05;RON
P049;vin alb demisec;băuturi;Jidvei;0.75;l;23.30;RON
P052;ciocolată neagră 70%;gustări;Fin Carre;100;g;3.80;RON
P055;cartofi albi;legume și fructe;Lidl;1;kg;3.00;RON
P057;ceapă galbenă;legume și fructe;Lidl;1;kg;2.80;RON
P064;mălai extra;alimente de bază;Pambac;1;kg;5.50;RON
P065;file somon;pește;Lidl;0.2;kg;25.00;RON
P066;cremă de brânză;lactate;Almette;0.15;kg;8.50;RON

5. profi_2025-05-08.csv

product_id;product_name;product_category;brand;package_quantity;package_unit;price;
currency
P001;lapte zuzu;lactate;Zuzu;1;l;13.00;RON
P004;iaurt grecesc;lactate;Proxi;0.4;kg;11.40;RON
P007;ouă mărimea M;ouă;Din Ogradă;10;buc;12.50;RON
P010;brânză telemea;lactate;Proxi;0.3;kg;12.70;RON
P013;pâine albă;panificație;Proxi;500;g;3.60;RON
P016;roșii cherry;legume și fructe;Generic;250;g;8.70;RON
P019;piept pui;carne;Avicola;1;kg;26.80;RON
P020;spaghetti nr.5;paste făinoase;Barilla;500;g;5.90;RON
P023;zahăr tos;alimente de bază;Proxi;1;kg;4.50;RON
P024;apă plată;băuturi;Aqua Carpatica;2;l;5.30;RON
P027;banane;legume și fructe;Generic;1;kg;6.15;RON
P030;ulei floarea-soarelui;alimente de bază;Spornic;1;l;9.10;RON
P033;biscuiți cu unt;gustări;RoStar;0.2;kg;7.20;RON
P036;cafea măcinată;cafea;Tchibo;0.25;kg;22.00;RON
P039;detergent lichid;produse de menaj;Dero;2.5;l;48.90;RON
P042;șampon păr gras;îngrijire personală;Schauma;400;ml;17.50;RON
P045;hârtie igienică 3 straturi;produse de menaj;Motto;10;role;18.50;RON
P048;piper negru măcinat;condimente;Kamis;50;g;6.10;RON
P051;vin alb demisec;băuturi;Cotnari;0.75;l;23.00;RON
P054;ciocolată neagră 70%;gustări;Poiana;100;g;4.00;RON
P059;morcovi;legume și fructe;Generic;0.5;kg;2.60;RON
P067;orez bob lung;alimente de bază;Deroni;1;kg;8.00;RON
P068;iaurt de băut;lactate;Activia;0.33;kg;5.00;RON
P069;pastă de dinți;îngrijire personală;Colgate;100;ml;10.50;RON
P070;bere blondă;băuturi;Ursus;0.5;l;3.80;RON

6. kaufland_2025-05-08.csv

product_id;product_name;product_category;brand;package_quantity;package_unit;price;
currency
P001;lapte zuzu;lactate;Zuzu;1;l;10.00;RON
P003;iaurt grecesc;lactate;Olympus;0.4;kg;11.70;RON
P006;ouă mărimea M;ouă;Ferma Veche;10;buc;13.60;RON
P009;brânză telemea;lactate;Hochland;0.3;kg;13.00;RON

P012;pâine albă;panificație;K-Classic;500;g;3.55;RON
P015;roșii cherry;legume și fructe;K-Bio;250;g;7.10;RON
P018;piept pui;carne;Agricola;1;kg;28.00;RON
P020;spaghetti nr.5;paste făinoase;Barilla;500;g;5.85;RON
P022;zahăr tos;alimente de bază;Mărgăritar;1;kg;4.45;RON
P025;apă plată;băuturi;Dorna;2;l;5.25;RON
P027;banane;legume și fructe;Generic;1;kg;6.25;RON
P029;ulei floarea-soarelui;alimente de bază;Floriol;1;l;9.60;RON
P032;biscuiți cu unt;gustări;Milka;0.2;kg;7.40;RON
P035;cafea măcinată;cafea;Jacobs;0.25;kg;23.10;RON
P038;detergent lichid;produse de menaj;Ariel;2.5;l;50.80;RON
P041;șampon păr gras;îngrijire personală;Elseve;400;ml;18.10;RON
P044;hârtie igienică 3 straturi;produse de menaj;Pufina;10;role;19.30;RON
P047;piper negru măcinat;condimente;Fuchs;50;g;6.15;RON
P050;vin alb demisec;băuturi;Recas;0.75;l;24.10;RON
P053;ciocolată neagră 70%;gustări;Heidi;100;g;4.15;RON
P056;cartofi albi;legume și fructe;Generic;1;kg;3.10;RON
P058;ceapă galbenă;legume și fructe;Generic;1;kg;2.95;RON
P059;morcovi;legume și fructe;Generic;0.5;kg;2.40;RON
P061;suc portocale;băuturi;Santorini;1;l;7.60;RON
P063;cașcaval;lactate;K-Classic;0.25;kg;14.80;RON

7. lidl_discounts_2025-05-01.csv

product_id;product_name;brand;package_quantity;package_unit;product_category;from_date;to_date;percentage_of_discount
P001;lapte zuzu;Zuzu;1;l;lactate;2025-05-01;2025-05-07;10
P008;brânză telemea;Pilos;0.3;kg;lactate;2025-05-01;2025-05-07;15
P020;spaghetti nr.5;Barilla;500;g;paste făinoase;2025-05-03;2025-05-09;20
P034;cafea măcinată;Davidoff;0.25;kg;cafea;2025-05-04;2025-05-10;12
P011;pâine albă;Lidl;500;g;panificație;2025-05-02;2025-05-08;5
P014;roșii cherry;Lidl;250;g;legume și fructe;2025-05-02;2025-05-08;8
P037;detergent lichid;Persil;2.5;l;produse de menaj;2025-05-06;2025-05-12;25
P040;șampon păr gras;Head & Shoulders;400;ml;îngrijire personală;2025-05-05;2025-05-11;15
P049;vin alb demisec;Jidvei;0.75;l;băuturi;2025-05-01;2025-05-07;10
P052;ciocolată neagră 70%;Fin Carre;100;g;gustări;2025-05-03;2025-05-09;18

P024;apă plată;Aqua Carpatica;2;l;băuturi;2025-05-01;2025-05-07;5
P005;ouă mărimea M;Lidl;10;buc;ouă;2025-05-04;2025-05-10;7
P017;piept pui;Lidl;1;kg;carne;2025-05-02;2025-05-08;6
P028;ulei floarea-soarelui;Bunica;1;l;alimente de bază;2025-05-05;2025-05-11;10
P046;piper negru măcinat;Kotanyi;50;g;condimente;2025-05-06;2025-05-12;12
P031;biscuiți cu unt;Deluxe;0.2;kg;gustări;2025-05-04;2025-05-10;9
P043;hârtie igienică 3 straturi;Zewa;10;role;produse de menaj;2025-05-03;2025-05-09;14
P026;banane;Lidl;1;kg;legume și fructe;2025-05-06;2025-05-12;6
P002;iaurt grecesc;Lidl;0.4;kg;lactate;2025-05-05;2025-05-11;11
P014;roșii cherry;Lidl;250;g;legume și fructe;2025-05-06;2025-05-12;5

8. profi_discounts_2025-05-01.csv

product_id;product_name;brand;package_quantity;package_unit;product_category;from_date;to_date;percentage_of_discount
P001;lapte zuzu;Zuzu;1;l;lactate;2025-05-01;2025-05-07;8
P010;brânză telemea;Proxi;0.3;kg;lactate;2025-05-01;2025-05-07;12
P019;piept pui;Avicola;1;kg;carne;2025-05-02;2025-05-08;10
P024;apă plată;Aqua Carpatica;2;l;băuturi;2025-05-03;2025-05-09;5
P036;cafea măcinată;Tchibo;0.25;kg;cafea;2025-05-04;2025-05-10;15
P039;detergent lichid;Dero;2.5;l;produse de menaj;2025-05-01;2025-05-07;20
P042;șampon păr gras;Schauma;400;ml;îngrijire personală;2025-05-02;2025-05-08;10
P054;ciocolată neagră 70%;Poiana;100;g;gustări;2025-05-03;2025-05-09;10
P007;ouă mărimea M;Din Ogradă;10;buc;ouă;2025-05-04;2025-05-10;6
P027;banane;Generic;1;kg;legume și fructe;2025-05-01;2025-05-07;7

9. kaufland_discounts_2025-05-01.csv

product_id;product_name;brand;package_quantity;package_unit;product_category;from_date;to_date;percentage_of_discount
P003;iaurt grecesc;Olympus;0.4;kg;lactate;2025-05-01;2025-05-07;10
P009;brânză telemea;Hochland;0.3;kg;lactate;2025-05-01;2025-05-07;10
P018;piept pui;Agricola;1;kg;carne;2025-05-02;2025-05-08;12
P020;spaghetti nr.5;Barilla;500;g;paste făinoase;2025-05-03;2025-05-09;18
P035;cafea măcinată;Jacobs;0.25;kg;cafea;2025-05-04;2025-05-10;10
P038;detergent lichid;Ariel;2.5;l;produse de menaj;2025-05-01;2025-05-07;22

P041;șampon păr gras;Elseve;400;ml;îngrijire personală;2025-05-02;2025-05-08;12
P050;vin alb demisec;Recas;0.75;l;băuturi;2025-05-03;2025-05-09;8
P053;ciocolată neagră 70%;Heidi;100;g;gustări;2025-05-04;2025-05-10;15
P056;cartofi albi;Generic;1;kg;legume și fructe;2025-05-01;2025-05-07;5
P060;suc portocale;Cappy;1;l;băuturi;2025-05-02;2025-05-08;7
P062;cașcaval;Delaco;0.25;kg;lactate;2025-05-03;2025-05-09;10

10. lidl_discounts_2025-05-08.csv

product_id;product_name;brand;package_quantity;package_unit;product_category;from_date;to_date;percentage_of_discount
P001;lapte zuzu;Zuzu;1;l;lactate;2025-05-08;2025-05-14;12
P008;brânză telemea;Pilos;0.3;kg;lactate;2025-05-08;2025-05-14;10
P017;piept pui;Lidl;1;kg;carne;2025-05-09;2025-05-15;8
P034;cafea măcinată;Davidoff;0.25;kg;cafea;2025-05-10;2025-05-16;15
P028;ulei floarea-soarelui;Bunica;1;l;alimente de bază;2025-05-08;2025-05-14;7
P037;detergent lichid;Persil;2.5;l;produse de menaj;2025-05-09;2025-05-15;20
P040;șampon păr gras;Head & Shoulders;400;ml;îngrijire personală;2025-05-10;2025-05-16;18
P043;hârtie igienică 3 straturi;Zewa;10;role;produse de menaj;2025-05-08;2025-05-14;10
P052;ciocolată neagră 70%;Fin Carre;100;g;gustări;2025-05-09;2025-05-15;12
P055;cartofi albi;Lidl;1;kg;legume și fructe;2025-05-10;2025-05-16;6
P064;mălai extra;Pambac;1;kg;alimente de bază;2025-05-08;2025-05-14;5
P065;file somon;Lidl;0.2;kg;pește;2025-05-09;2025-05-15;10
P066;cremă de brânză;Almette;0.15;kg;lactate;2025-05-10;2025-05-16;8

11. profi_discounts_2025-05-08.csv

product_id;product_name;brand;package_quantity;package_unit;product_category;from_date;to_date;percentage_of_discount
P004;iaurt grecesc;Proxi;0.4;kg;lactate;2025-05-08;2025-05-14;9
P007;ouă mărimea M;Din Ogradă;10;buc;ouă;2025-05-08;2025-05-14;10
P020;spaghetti nr.5;Barilla;500;g;paste făinoase;2025-05-09;2025-05-15;15
P024;apă plată;Aqua Carpatica;2;l;băuturi;2025-05-10;2025-05-16;7
P030;ulei floarea-soarelui;Spornic;1;l;alimente de bază;2025-05-08;2025-05-14;6
P039;detergent lichid;Dero;2.5;l;produse de menaj;2025-05-09;2025-05-15;18

P045;hârtie igienică 3 straturi;Motto;10;role;produse de menaj;2025-05-10;2025-05-16;12
P051;vin alb demisec;Cotnari;0.75;l;băuturi;2025-05-08;2025-05-14;10
P059;morcovi;Generic;0.5;kg;legume și fructe;2025-05-09;2025-05-15;5
P067;orez bob lung;Deroni;1;kg;alimente de bază;2025-05-10;2025-05-16;8
P068;iaurt de băut;Activia;0.33;kg;lactate;2025-05-08;2025-05-14;10
P069;pastă de dinți;Colgate;100;ml;îngrijire personală;2025-05-09;2025-05-15;15
P070;bere blondă;Ursus;0.5;l;băuturi;2025-05-10;2025-05-16;6

12. kaufland_discounts_2025-05-08.csv

product_id;product_name;brand;package_quantity;package_unit;product_category;from_date;to_date;percentage_of_discount
P001;lapte zuzu;Zuzu;1;l;lactate;2025-05-08;2025-05-14;9
P006;ouă mărimea M;Ferma Veche;10;buc;ouă;2025-05-08;2025-05-14;11
P012;pâine albă;K-Classic;500;g;panificație;2025-05-09;2025-05-15;7
P022;zahăr tos;Mărgăritar;1;kg;alimente de bază;2025-05-10;2025-05-16;6
P029;ulei floarea-soarelui;Floriol;1;l;alimente de bază;2025-05-08;2025-05-14;8
P032;biscuiți cu unt;Milka;0.2;kg;gustări;2025-05-09;2025-05-15;12
P035;cafea măcinată;Jacobs;0.25;kg;cafea;2025-05-10;2025-05-16;11
P044;hârtie igienică 3 straturi;Pufina;10;role;produse de menaj;2025-05-08;2025-05-14;13
P047;piper negru măcinat;Fuchs;50;g;condimente;2025-05-09;2025-05-15;10
P058;ceapă galbenă;Generic;1;kg;legume și fructe;2025-05-10;2025-05-16;5
P061;suc portocale;Santorini;1;l;băuturi;2025-05-08;2025-05-14;9
P063;cașcaval;K-Classic;0.25;kg;lactate;2025-05-09;2025-05-15;12