Dear candidate,
Thank you for your application. We appreciate your interest in joining the Data Science team @Conrad and your participation in our recruitment process. We are happy to inform you that you have made it to the next round. You will have to do an ML task in this round. Please find the description below.

The task consists of coming up with a new recommendation engine component(s) for the Conrad online shop. That is for recommending our customers products that might be interesting to buy together (bundles).

We decided to use an e-commerce dataset available at Kaggle, which should resemble to datasets you will be dealing with at Conrad. That can be downloaded from here

Tasks:

1. Implement a solution of your choice for recommending product bundles e.g. rule-based, statistics, or ML-based solution. Please describe any reasoning behind your solution.
2. Provide a splitting to train and test datasets. Discuss possible different splitting criteria. What other splitting criteria would you choose if you could gather more features/data?
3. Discuss the size of the output list and how it can be decided per product
4. Discuss/implement any price computation per bundle e.g. the sum of products' prices
5. How would you evaluate the business impact of the solution and share the outcome with the internal stakeholders?

Optional tasks:

6. Implement a regression model for the products' prices (UnitPrice) prediction. Is the provided data sufficient to predict the price? What other data would you like to gather to improve your solution?
7. Your bundle's code is a great success and the Frontend team wants to use it in production. Implement a simple Rest API to serve the bundles with an endpoint getting as a parameter a product ID and returning a list of products and the price for the whole bundle. Ideally, provide a Dockerized version of the implemented API.

Make sure to push the code to a **PRIVATE** GitHub repository with the needed instructions to run the solution code. Then, add the following user as a collaborator to the project: **dstest22.** And send an email to saloua.litayem@conrad.de to start the review of the task. If you have any questions please feel free to reach out to us.

We are looking forward to getting your solution (Github link) and discussing it.
Good luck.