

Final work

Develop an analytics system for accounting and planning vacations.

Tasks

Number	Task description	Points
1	<p>Design a Google Form that allows you to plan your vacation. The form must contain the following fields: • Country • City • Start date • End date • Planned budget</p> <p>Results should be saved to a Google spreadsheet</p>	ten
2	<p>Add columns to Google Spreadsheets to populate information on actual vacation information. The columns should contain the following information:</p> <ul style="list-style-type: none"> • Ticket prices • Hotel cost • Vacation spending • Overall rating of vacation on a scale of 1 to 5 • Column with total vacation cost (sum of three columns above) • Deviation of total cost from plan • Cost of one vacation day <p>The last 3 columns should be calculated using formulas</p>	ten
3	<p>Enter data on 10 or more vacations for the last 3 years (data may be fictitious)</p>	5
4	<p>Develop a report (in Google Spreadsheets or Google Data-Studio) with the following metrics: • Display the most expensive vacation (in total) • Average deviation of the actual price of the vacation from the planned • Budget expenditure: what share on average is occupied by flights, accommodation and spending on the spot • Ranking (table) of countries by the cost of the hotel per day • Ranking (table) of countries by the cost of spending on the spot for</p> <p>day</p> <p>The report should contain a filter by dates, as well as by rating</p>	thirty
5	<p>Calculate the correlation between the price of a vacation per day and</p>	5

	rating for feedback. Plot a scatter plot with these indicators	
6	Test the statistical hypothesis that you plan holidays well: the average deviation of planned expenses from real ones is 0	5
7	Use Python and SQL to find the names of your cities in the World-db City table (string connections similar to lectures - postgresql://netology:NetoSQL2019@84.201.153.170:19001/world db) Create a corresponding lookup on a separate sheet of Google sheets Add a column with the English name of the city using the VLOOKUP (VLOOKUP) function	ten
eight	Download data in CSV and open it in Python	ten
9	Using SQL and Python, get a dataframe with the name of the city and its population from the City table	5
ten	Using Python, combine the data from the uploaded CSV file (point 8) and the city population table Group the final dataframe by country and calculate the average population in the cities where you vacationed	ten

The maximum number of points for all tasks is 100. To pass, it is enough to score 60 points.

Please send the following as a solution:

- Link to Google form • Link to Google spreadsheet • Link to report in Google Data Studio (if available) • Link to Google Colaboratory

To avoid a situation where the teacher does not have access to the file via links, it is recommended to check them before sending. To do this, you can try to open them in incognito mode in the browser.