

Exercises with a specified skill level
I'm a student learning the R programming language. I would like to get some programming excercises.
Please create 5 programming tasks without providing the solution. The difficulty level for the tasks should be easy.

Here are five easy-level programming exercises in R to help you practice and improve your skills:

1. Basic Arithmetic Operations

Write an R script that asks the user for two numbers, performs the four basic arithmetic operations (addition, subtraction, multiplication, and division), and then prints the results.

Tasks:

- Prompt the user for two numeric inputs.
- Perform addition, subtraction, multiplication, and division.
- Display the results clearly.

2. Vector Operations

Create a vector containing the numbers 1 through 10. Write an R script to:

- Compute the sum, mean, and standard deviation of the vector.
- Create a new vector that contains the squares of each element in the original vector.
- Print both the original and new vectors.

Tasks:

- Use basic vector operations to compute the required statistics.
- Use vectorized operations to create the new vector.

3. Simple Data Frame Manipulation

Create a data frame in R with two columns: "Name" (character) and "Age" (numeric). Populate the data frame with at least 5 entries. Write a script to:

- Add a new column "Age Group" to categorize the ages into "Child" (Age < 13), "Teen" (13 <= Age < 20), and "Adult" (Age >= 20).
- Filter the data frame to only include "Adults".
- Print the modified data frame.

Tasks:

- Use ``ifelse`` or similar functions for age categorization.
- Use filtering techniques to subset the data frame.

4. Factor Levels

Create a factor in R representing the days of the week. Write a script that:

- Converts the factor to ordered based on the typical order of the week.
- Extracts and prints the levels of the factor.
- Checks if "Wednesday" is a level in the factor.

Tasks:

- Use the ``factor()`` function with the ``levels`` and ``ordered`` arguments.
- Use the ``levels()`` function to manipulate and print factor levels.

5. Random Number Generation

Write an R script to generate 100 random numbers between 1 and 1000. Then:

- Find and print the maximum, minimum, and median of the numbers.
- Count how many of these numbers are even and how many are odd.
- Print the first 10 numbers in the list.

Tasks:

- Use ``runif()`` or ``sample()`` to generate random numbers.
- Use ``max()``, ``min()``, and ``median()`` for statistics.
- Use loops or vectorized operations to count even and odd numbers.

These exercises should help you get comfortable with basic R programming concepts. Good luck!

Sende eine Nachricht an ChatGPT

ChatGPT kann Fehler machen. Überprüfe wichtige Informationen.