

# Question Bank

## Subject R programming

1. What is R primarily used for?
2. How do you assign a value to a variable in R?
3. What is the difference between `<-` and `=` in R?
4. How do you check the data type of a variable?
5. What function is used to get help in R?
6. How do you install and load a package in R?
7. What are the basic data types in R?
8. How do you create a vector in R?
9. How do you subset elements from a vector?
10. How do you concatenate strings in R?
11. What are factors in R, and how do they differ from character vectors?
12. How do you create a matrix in R?
13. How do you subset a matrix by rows and columns?
14. What is a list in R, and how is it different from a vector?
15. How do you apply a function to each element of a list using `lapply()`?
16. How do you merge two data frames in R?
17. What is the difference between `apply()`, `sapply()`, `lapply()`, and `tapply()`?

18. How do you handle missing values in R?
19. What is the difference between `rbind()` and `cbind()`?
20. How do you create a user-defined function in R?
21. What is the difference between S3, S4, and Reference Classes in R?
22. How do you perform data aggregation using `dplyr`?
23. How does tidyverse improve data manipulation in R?
24. Explain how `ggplot2` is used for data visualization.
25. What is the difference between `merge()` and `dplyr::inner_join()`?
26. How do you handle big data in R?
27. What is the purpose of `Rcpp` in R programming?
28. How do you optimize performance in R?
29. How do you perform time series analysis in R?
30. How do you use R for machine learning?