Calculations

Compute the following expressions

1. $2 + 3 * 5^2$
2. 2^{3^5}
3. $3e^5 + 2$
4. 1.4E^{-2}
5. $log_2(33554432)$
6. $\sin\left(\frac{\pi}{2}\right)$

Objects and Assignment

Create the following:

7. A vector containing „a" and „b"
8. A vector containing 3, 7, 11, 15
9. A vector with all integers from 1 to 10, save this result in variable u
10. A vector with 10 random integers lower than 100, save this result in variable x

Working with Vectors

11. Display the first 3 elements of x
12. Apply sort() to the vector x
13. Apply order() to the vector x
14. Try to sort x by using only order() and []
15. Display all even numbers of x
16. Create a vector v containing the squared values of x
17. u+1
18. v/x
19. sqrt(v)
20. x+0:1

Matrices

21. matrix(0,nrow=2,ncol=2)
22. matrix(x,nrow=2)
23. Save the last matrix in the variable A
24. Retrieve the first row of A
25. Compute the sum of matrix A without the second column

Load Data

26. Download the *Shower data* file from edX and load it into R.
27. Try to use class(), dim(), head(), summary() and names() commands on the dataset. What do the results tell you?
28. Convert the columns into the right data types (numeric, character, factor, ...) Apply summary() to shower once again.