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1 #Lab3
2 #Author:LINET M SHAJI (Reg No:P191314)
3
4 #Question 1 and Question2
5
6 # Assignment using equal operator.
7 var1 = 10L
8 # Assignment using rightward operator.
9 "Hi" -> .var2
10 3 + 4i ->> var.5
11 # Assignment using leftward operator.
12 var.3 <- 10.2
13 var.4 <<- TRUE
14
15 #Question3
16 #To print data type and value of variable on same line
17
18 cat(var1," is",class(var1),"\n")
19 10 is integer
20 cat(.var2," is",class(.var2),"\n")
21 Hi is character
22 cat(var.3," is",class(var.3),"\n")
23 10.2 is numeric
24 cat(var.4," is",class(var.4),"\n")
25 TRUE is logical
26 cat(var.5," is",class(var.5),"\n")
27 3+4i is complex
28
29 #Question4
30
31 str="Hello"
32 # List the variables starting with the pattern "var"
33 print(ls(pattern = "var"))
34 [1] "var.3" "var.4" "var.5" "var1"
35 #To list out all variables except variables starting with dot(.)
36 print(ls())
37 [1] "str" "var.3" "var.4" "var.5" "var1"
38 #List out variables starting with dot(.) also
39 print(ls(all.name = TRUE))
40 [1] ".var2" "str" "var.3" "var.4" "var.5" "var1"
41
42 num1 <- 10
43 num2 <- 20
44 num3 <- 10
45 str1 <- "hello"
46
47 #Question6
48 #Relational operator <,>,,!=,>=,<=
49
50 print(num1 < num2)
51 [1] TRUE
52 print(num1 >= num3)
53 [1] TRUE
54 print(num1 <= num2)
55 [1] TRUE
56 print(num1 == num3)
57 [1] TRUE
58 print(num1 != num3)
59 [1] FALSE
60
61 #Logical operator !,|,&,,&&
62
63 vector1 <- c(3,0,TRUE,2+2i)
64 vector2 <- c(4,0,FALSE,2+3i)
65 print( ! vector1)
66 [1] FALSE TRUE FALSE FALSE
67 print(vector1 | vector2)
68 [1] TRUE FALSE TRUE TRUE
69 print(vector1 & vector2)

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70  [1] TRUE FALSE FALSE TRUE
71  print(vector1 || vector2)
72  [1] TRUE
73  print(vector1 && vector2)
74  [1] TRUE
75
76  #Assignment operator
77
78  # Assignment using equal operator.
79  var1 = 10L
80
81  # Assignment using rightward operator.
82  "Hi" -> .var2
83  3 + 4i ->> var.5
84
85  # Assignment using leftward operator.
86  var.3 <- 10.2
87  var.4 <<- TRUE
88
89  #Miscellaneous operator
90  #Implementation of colon operator
91
92  var6 <- 2:8
93  print(var6)
94  [1] 2 3 4 5 6 7 8
95
96  #Implementation of %in% operator
97  var7 <- 8
98  var8 <- 12
99  var9 <- 1:10
100 print(var7 %in% var9)
101 [1] TRUE
102 print(var8 %in% var9)
103 [1] FALSE
104
105 #Implementation of %*% operation
106 M = matrix( c(2,6,5,1,10,4), nrow = 2,ncol = 3,byrow = TRUE)
107 t = M %*% t(M)
108 print(t)
109      [,1] [,2]
110 [1,]    65    82
111 [2,]    82   117
112
113 #Question5
114 #Delete var.3
115 rm(var.3)
116 print(var.3)
117 Error in print(var.3) : object 'var.3' not found
118 Execution halted
119
120

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