

RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

Go to file/function Addins

Console Terminal Background Jobs

```
R - R442 - ~/r/
R version 4.4.2 (2024-10-31 ucrt) -- "pile of Leaves"
Copyright (C) 2024 The R Foundation for Statistical Computing
Platform: x86_64-w64-mingw32/x64

R is free software and comes with ABSOLUTELY NO WARRANTY.
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Type 'license()' or 'licence()' for distribution details.

Natural language support but running in an English locale

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

[workspace loaded from ~/r/Data]

>
> while (TRUE) {
+   num <- rnorm(1)
+   if (num > 1) {
+     break
+   }
+   if (num < 0) {
+     next
+   }
+   print(num)
+ }
[1] 0.3699087
[1] 0.4890294
>
```

Environment History Connections Tutorial

R - Global Environment

Data

Employee 5 obs. of 3 variables

Values

counter	11
fruit	function (...)
i	7L
id	int [1:5] 1 2 3 4 5
n	"Species"
Name	chr [1:5] "Mala" "Raj" "Kala" "Mani" "Hasid"

Files Plots Packages Help Viewer Presentation

New Folder New File Delete Rename More

Home

Name	Size	Modified
RData	86.5 KB	Feb 25, 2025, 12:02 AM
Rhistory	4.3 KB	Feb 25, 2025, 12:02 AM
=.cpp	94 B	May 14, 2024, 9:16 PM
123.c	268 B	Feb 19, 2024, 2:40 PM
123.exe	128.3 KB	Feb 19, 2024, 2:41 PM
192371011-02 - Read-Only pptx	3.6 MB	Apr 25, 2024, 2:02 PM
abundant_num.cpp	222 B	Jun 26, 2024, 9:12 AM
abundant_num.exe	1.8 MB	Jun 26, 2024, 9:13 AM
abundant_number.cpp	295 B	Apr 24, 2024, 2:50 PM
abundant_number.exe	1.8 MB	Apr 24, 2024, 2:08 PM
act_value.c	130 B	May 29, 2024, 3:35 PM
act_value.cpp	155 B	May 29, 2024, 3:37 PM
act_value.exe	1.8 MB	May 29, 2024, 3:37 PM
add_and_sub_function.c	276 B	Feb 29, 2024, 11:20 AM
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add_function.c	207 B	Feb 29, 2024, 10:18 AM

RStudio

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Go to file/function Addins

Console Terminal Background Jobs

```
R - R442 - ~/r/
> # Load the mtcars dataset
> data(mtcars)
>
> # Define a for loop that prints 'disp' values 160 or higher
> for (i in 1:nrow(mtcars)) {
+   if (mtcars$disp[i] >= 160) {
+     print(mtcars$disp[i])
+   }
+ }
[1] 160
[1] 160
[1] 258
[1] 360
[1] 225
[1] 360
[1] 167.6
[1] 167.6
[1] 275.8
[1] 275.8
[1] 275.8
[1] 472
[1] 460
[1] 440
[1] 318
[1] 304
[1] 350
[1] 400
[1] 351
[1] 301
>
```

Environment History Connections Tutorial

R - Global Environment

Data

mtcars 32 obs. of 11 variables

Values

i	32L
---	-----

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Go to file/function Addins

Console Terminal Background Jobs

```
R - R 4.4.2 - ~/R/
> # Load the mtcars dataset
> data(mtcars)
>
> # Define a for loop that prints 'disp' values 160 or higher and stops if 'disp' is smaller than 160
> for (i in 1:nrow(mtcars)) {
+   if (mtcars$disp[i] < 160) {
+     break
+   }
+   print(mtcars$disp[i])
+ }
[1] 160
[1] 160
> |
```

Environment History Connections Tutorial

R - Global Environment

Data

mtcars 32 obs. of 11 variables

Values

i 3L

Files Plots Packages Help Viewer Presentation

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Go to file/function Addins

Source Console Terminal Background Jobs

```
R - R 4.4.2 - ~/R/
> laapply(mtcars,FUN=min)->l
Error in laapply(mtcars, FUN = min) : could not find function "laapply"
> laapply(mtcars,FUN=min)->l
> sapply(mtcars,FUN=min)->s
> mapply(min,mtcars)->m
> l
$mpg
[1] 10.4

$cy1
[1] 4

$disp
[1] 71.1

$hp
[1] 52

$drat
[1] 2.76

$wt
[1] 1.513

$qsec
[1] 14.5

$vs
[1] 0

$am
```

Environment History Connections

R - Global Environment

string... FALSE

Titanic 'table' num [1:4...

Functions

conver... function (n)

emp.da... Large function ...

fahr_t... function (temp)

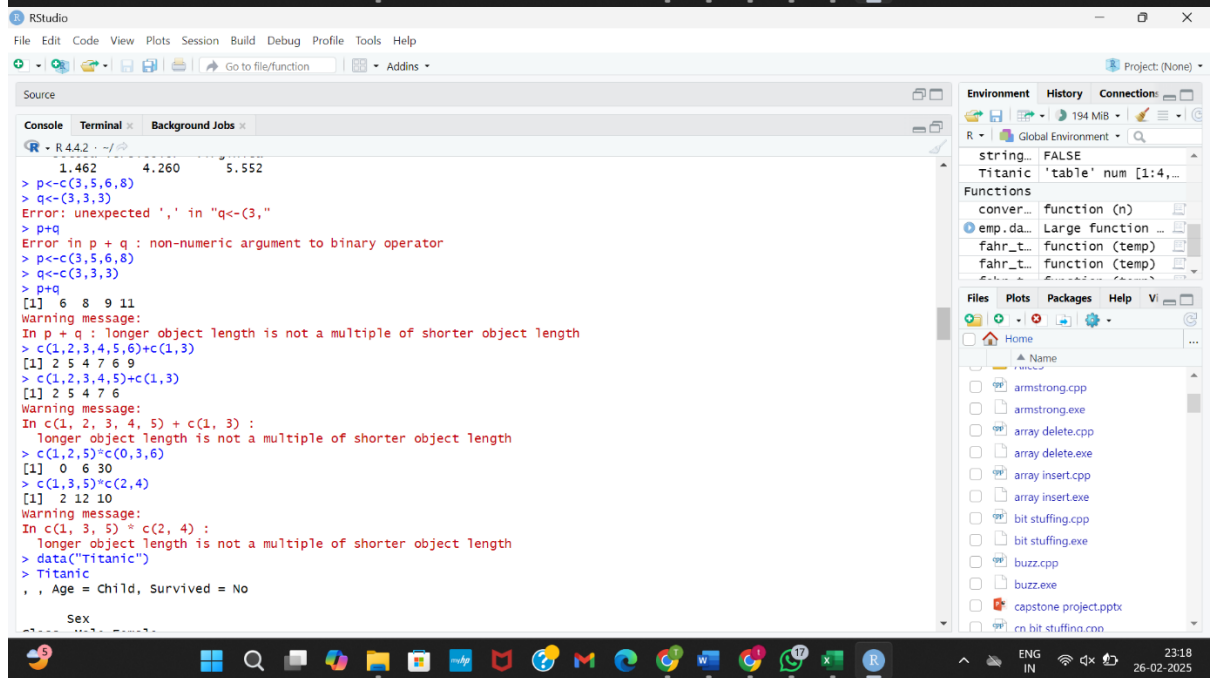
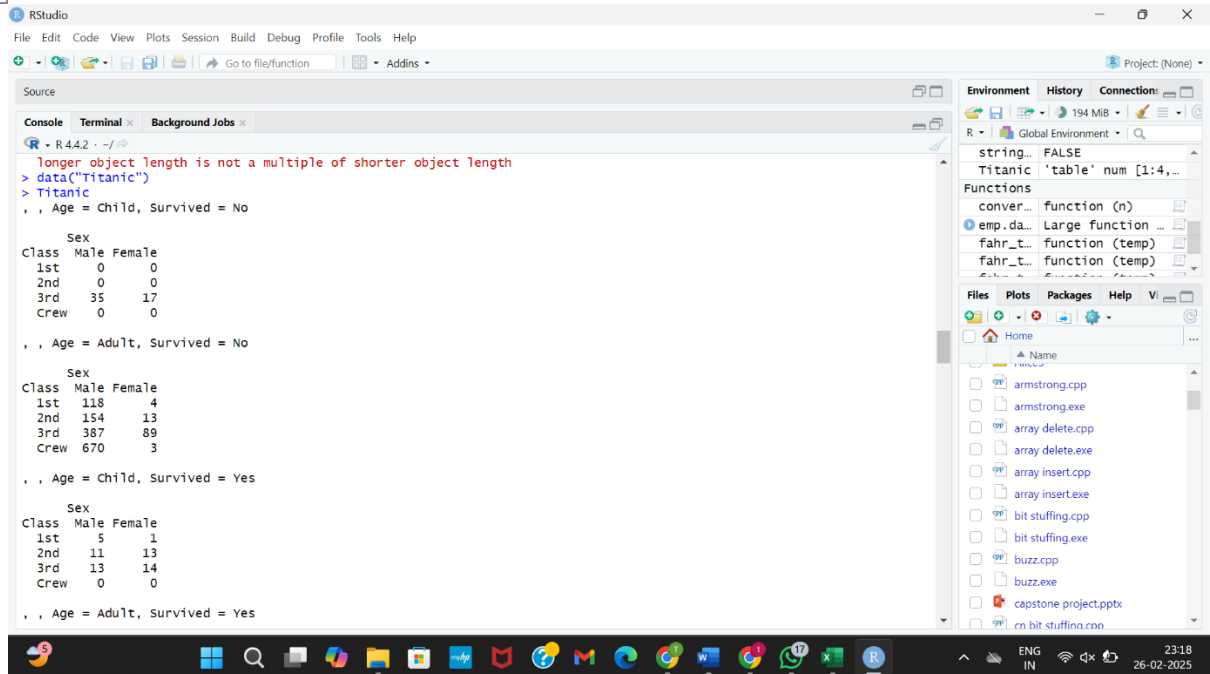
fahr_t... function (temp)

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Name

- armstrong.cpp
- armstrong.exe
- array delete.cpp
- array delete.exe
- array insert.cpp
- array insert.exe
- bit stuffing.cpp
- bit stuffing.exe
- buzz.cpp
- buzz.exe
- capstone project.pptx
- co bit stuffing.c



```
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins
Source
Console Terminal Background Jobs
R - R 4.4.2 - ~/
[[2]]
  mpg   cyl  disp    hp  drat    wt   qsec    vs  am
10.400  4.000 71.100  52.000  2.760  1.513 14.500  0.000 0.000
   gear   carb
   3.000   1.000

[[3]]
  mpg   cyl  disp    hp  drat    wt   qsec    vs  am
10.400  4.000 71.100  52.000  2.760  1.513 14.500  0.000 0.000
   gear   carb
   3.000   1.000

> sapply(FUN=class,X=irisobj)
[1] "list"      "numeric"  "numeric"
> str(iris)
'data.frame':   150 obs. of  5 variables:
 $ Sepal.Length: num  5.1 4.9 4.7 4.6 5 5.4 4.6 5 4.4 4.9 ...
 $ Sepal.Width : num  3.5 3 3.2 3.1 3.6 3.9 3.4 3.4 2.9 3.1 ...
 $ Petal.Length: num  1.4 1.4 1.3 1.5 1.4 1.7 1.4 1.5 1.4 1.5 ...
 $ Petal.Width : num  0.2 0.2 0.2 0.2 0.2 0.4 0.3 0.2 0.2 0.1 ...
 $ Species      : Factor w/ 3 levels "setosa","versicolor",...: 1 1 1 1 1 1 1 1 1 1 ...
> tapply(iris$Sepal.Length,iris$Species,mean)
setosa versicolor virginica
5.006   5.936   6.588
> tapply(iris$Petal.Length,iris$Species,mean)
setosa versicolor virginica
1.462   4.260   5.552
> p<-c(3,5,6,8)
> q<-c(3,3,3)
Error: unexpected ',' in "q<-c(3,"
> p+q
```

```
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins
Source
Console Terminal Background Jobs
R - R 4.4.2 - ~/
[[1]]$cyl
[1] 4

[[1]]$disp
[1] 71.1

[[1]]$hp
[1] 52

[[1]]$drat
[1] 2.76

[[1]]$wt
[1] 1.513

[[1]]$qsec
[1] 14.5

[[1]]$vs
[1] 0

[[1]]$am
[1] 0

[[1]]$gear
[1] 3

[[1]]$carb
[1] 1
```

RStudio

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Go to file/function Addins

Source

Console Terminal Background Jobs

```
R - R 4.4.2 - ~/
```

```
$vs
[1] 0

$am
[1] 0

$gear
[1] 3

$carb
[1] 1

> s
      mpg   cyl  disp    hp  drat    wt  qsec    vs  am
10.400  4.000 71.100  52.000  2.760  1.513 14.500  0.000 0.000
      gear carb
3.000  1.000

> m
      mpg   cyl  disp    hp  drat    wt  qsec    vs  am
10.400  4.000 71.100  52.000  2.760  1.513 14.500  0.000 0.000
      gear carb
3.000  1.000

> lisobj=list(s,m)
> lisobj
[[1]]
[[1]]$mpg
[1] 10.4

[[1]]$cyl
[1] 4
```

Environment History Connections

R - Global Environment 194 MB

string... FALSE

Titanic 'table' num [1:4, ...]

Functions

conver... function (n)

emp.da... Large function ...

fahr_t... function (temp)

fahr_t... function (temp)

Files Plots Packages Help View

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Name

- armstrong.cpp
- armstrong.exe
- array delete.cpp
- array delete.exe
- array insert.cpp
- array insert.exe
- bit stuffing.cpp
- bit stuffing.exe
- buzz.cpp
- buzz.exe
- capstone project.pptx
- cn bit stuffing.cnn

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RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

Go to file/function Addins

Source

Console Terminal Background Jobs

```
R - R 4.4.2 - ~/
```

```
[[1]]$cyl
[1] 4

[[1]]$disp
[1] 71.1

[[1]]$hp
[1] 52

[[1]]$drat
[1] 2.76

[[1]]$wt
[1] 1.513

[[1]]$qsec
[1] 14.5

[[1]]$vs
[1] 0

[[1]]$am
[1] 0

[[1]]$gear
[1] 3

[[1]]$carb
[1] 1
```

Environment History Connections

R - Global Environment 194 MB

string... FALSE

Titanic 'table' num [1:4, ...]

Functions

conver... function (n)

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```
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins
Source
Console Terminal Background Jobs
R - R 4.4.2 - ~/
[[2]]
  mpg    cyl  disp    hp  drat    wt    qsec    vs    am
10.400  4.000 71.100 52.000  2.760  1.513 14.500  0.000  0.000
  gear    carb
 3.000    1.000

[[3]]
  mpg    cyl  disp    hp  drat    wt    qsec    vs    am
10.400  4.000 71.100 52.000  2.760  1.513 14.500  0.000  0.000
  gear    carb
 3.000    1.000

> sapply(FUN=c1ass,X=1:5obj)
[1] "list"      "numeric"  "numeric"
> str(iris)
'data.frame':   150 obs. of  5 variables:
 $ Sepal.Length: num  5.1 4.9 4.7 4.6 5 5.4 4.6 5.4 4.4 4.9 ...
 $ Sepal.Width : num  3.5 3 3.2 3.1 3.6 3.9 3.4 3.4 2.9 3.1 ...
 $ Petal.Length: num  1.4 1.4 1.3 1.5 1.4 1.7 1.4 1.5 1.4 1.5 ...
 $ Petal.Width : num  0.2 0.2 0.2 0.2 0.2 0.4 0.3 0.2 0.2 0.1 ...
 $ Species      : Factor w/ 3 levels "setosa","versicolor",...: 1 1 1 1 1 1 1 1 1 1 ...
> tapply(iris$Sepal.Length,iris$Species,mean)
setosa versicolor virginica
5.006   5.936   6.588
> tapply(iris$Petal.Length,iris$Species,mean)
setosa versicolor virginica
1.462   4.260   5.552
> p<-c(3,5,6,8)
> q<-c(3,3,3)
Error: unexpected ',' in "q<-c(3,"
> p+q
```

```
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
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Source
Console Terminal Background Jobs
R - R 4.4.2 - ~/
1.462 4.260 5.552
> p<-c(3,5,6,8)
> q<-c(3,3,3)
Error: unexpected ',' in "q<-c(3,"
> p+q
Error in p + q : non-numeric argument to binary operator
> p<-c(3,5,6,8)
> q<-c(3,3,3)
> p+q
[1] 6 8 9 11
Warning message:
In p + q : longer object length is not a multiple of shorter object length
> c(1,2,3,4,5,6)+c(1,3)
[1] 2 5 4 7 6 9
> c(1,2,3,4,5)+c(1,3)
[1] 2 5 4 7 6
Warning message:
In c(1, 2, 3, 4, 5) + c(1, 3) :
longer object length is not a multiple of shorter object length
> c(1,2,5)*c(0,3,6)
[1] 0 6 30
> c(1,3,5)*c(2,4)
[1] 2 12 10
Warning message:
In c(1, 3, 5) * c(2, 4) :
longer object length is not a multiple of shorter object length
> data("Titanic")
> Titanic
, , Age = Child, Survived = No
Sex
```

RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

Go to file/function Addins

Source

Console Terminal Background Jobs

```
R - R 4.4.2 ~ -/
longer object length is not a multiple of shorter object length
> data("Titanic")
> Titanic
, , Age = Child, Survived = No

      Sex
Class Male Female
1st    0      0
2nd    0      0
3rd   35     17
Crew   0      0

, , Age = Adult, Survived = No

      Sex
Class Male Female
1st   118      4
2nd   154     13
3rd   387     89
Crew  670      3

, , Age = Child, Survived = Yes

      Sex
Class Male Female
1st     5      1
2nd    11     13
3rd    13     14
Crew    0      0

, , Age = Adult, Survived = Yes
```

Environment History Connections

R - Global Environment 194 MB

string... FALSE

Titanic 'table' num [1:4, ...]

Functions

conver... function (n)

emp.da... Large function ...

fahr_t... function (temp)

fahr_t... function (temp)

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armstrong.cpp

armstrong.exe

array delete.cpp

array delete.exe

array insert.cpp

array insert.exe

bit stuffing.cpp

bit stuffing.exe

buzz.cpp

buzz.exe

capstone project.pptx

cn bit stuffing.cnn

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RStudio

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Go to file/function Addins

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Console Terminal Background Jobs

```
R - R 4.4.2 ~ -/

      Sex
Class Male Female
1st    57     140
2nd    14      80
3rd    75      76
Crew   192     20

> apply(Titanic,2,sum)
Male Female
1731    470
> apply(Titanic,c(2,4),sum)
Survived
Sex      No Yes
Male   1364 367
Female  126 344
> apply(Titanic,c(3,2),sum)
Sex
Age      Male Female
Child    64     45
Adult  1667    425
> kelvin_to_celsius<-function(temp)
+ {celsius<-temp-273.15;return(celsius)} #kelvin to celsius
> print(kelvin_to_celsius)
function(temp)
{celsius<-temp-273.15;return(celsius)}
> kelvin_to_celsius<-function(temp)
+ {celsius<-temp-273.15;return(celsius)} #kelvin to celsius
> print(kelvin_to_celsius(300))
[1] 26.85
> fahr_to_kelvin<-function(temp)
+ {kelvin<-temp*5/9+273.15;return(kelvin)} #fahr to kelvin
```

Environment History Connections

R - Global Environment 194 MB

string... FALSE

Titanic 'table' num [1:4, ...]

Functions

conver... function (n)

emp.da... Large function ...

fahr_t... function (temp)

fahr_t... function (temp)

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RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

Go to file/function Addins

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Console Terminal Background Jobs

```
R - R 4.4.2 ~:/> print(kelvin_to_celsius)
function(temp)
{celsius<-temp-273.15;return(celsius)}
> kelvin_to_celsius<-function(temp)
+ {celsius<-temp-273.15;return(celsius)} #kelvin to celsius
> print(kelvin_to_celsius(300))
[1] 26.85
> fahr_to_kelvin<-function(temp)
+ {kelvin<-((temp-32)*(5/9))+273.15;return(kelvin)}
> print(fahr_to_kelvin(32))
[1] 273.15
> fahr_to_celsius <- function(temp)
+ {temp_k <- fahr_to_kelvin(temp);result <- kelvin_to_celsius(temp_k);return(result)}
> print(fahr_to_celsius(98.6))
[1] 37
> fahr_to_celsius_direct<-function(temp)
+ {celsius<-((temp-32)*(5/9));return(celsius);}
> print(fahr_to_celsius_direct(212))
[1] 100
> convert_to_binary<-function(n)
+ {if(n>1){convert_to_binary(as.integer(n/2));cat(n%%2)}
Error: unexpected symbol in:
"convert_to_binary<-function(n)
{if(n>1){convert_to_binary(as.integer(n/2));cat"
> convert_to_binary<-function(n)
+ {if(n>1){convert_to_binary(as.integer(n/2));cat(n%%2)}
Error: unexpected symbol in:
"convert_to_binary<-function(n)
{if(n>1){convert_to_binary(as.integer(n/2));cat"
> convert_to_binary <- function(n) {
+   if (n > 1) {
+     convert_to_binary(as.integer(n / 2))
+   }
+ }
```

Environment History Connection

R | Global Environment | 194 MiB

string... FALSE
Titanic 'table' num [1:4,...

Functions

conver... function (n)
emp.da... Large function ...
fahr_t... function (temp)
fahr_t... function (temp)

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capstone project.pptx
cn bit stuffing.ccn

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Go to file/function Addins

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Console Terminal Background Jobs

```
R - R 4.4.2 ~:/> convert_to_binary <- function(n)
+ {if(n>1){convert_to_binary(as.integer(n/2));cat"
> convert_to_binary <- function(n) {
+   if (n > 1) {
+     convert_to_binary(as.integer(n / 2))
+   }
+   cat(n %% 2)
+ }
> convert_to_binary(as.integer(52.5))
Error in convert_to_binary(as, integer(52.5)) :
  unused argument (integer(52.5))
> convert_to_binary(as.integer(52))
Error in convert_to_binary(as, integer(52)) :
  unused argument (integer(52))
> convert_to_binary(52)
110100
> emp.data<-data.frame
>
> {emp_id = c(1:5), emp_name = c("Ricky", "Danish", "Mini", "Ryan", "Gary"),salary = c(643.3, 515.2, 671.0, 729.0, 943.2
5),start_date = as.Date(c("2012-01-01", "2013-09-23", "2014-11-15", "2014-05-11", "2015-03-27"));stringsAsFactors = FALS
E}
Error: unexpected ',' in "{emp_id = c(1:5),"
> emp.data<-data.frame
> {emp_id = c(1:5);emp_name = c("Ricky", "Danish", "Mini", "Ryan", "Gary");salary = c(643.3, 515.2, 671.0, 729.0, 943.2
5);start_date = as.Date(c("2012-01-01", "2013-09-23", "2014-11-15", "2014-05-11", "2015-03-27"));stringsAsFactors = FALS
E}
> print(emp.data)
function (..., row.names = NULL, check.rows = FALSE, check.names = TRUE,
  fix.empty.names = TRUE, stringsAsFactors = FALSE)
{
  data.row.names <- if (check.rows && is.null(row.names))
```

Environment History Connection

R | Global Environment | 194 MiB

string... FALSE
Titanic 'table' num [1:4,...

Functions

conver... function (n)
emp.da... Large function ...
fahr_t... function (temp)
fahr_t... function (temp)

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Name

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