

INSTITUTO TECNOLÓGICO DE TIJUANA

MATERIA: MINERÍA DE DATOS

INGENIERÍA:

Ing. Tecnologías de la información y la comunicación.

NOMBRE DEL TRABAJO:

PRACTICA 2

ALUMNO(S):

Nombre:

Ramos Rivera Manuel Isai 17212931

CORREO ELECTRÓNICO: Manuel.Ramos17@tectijuana.edu.mx

Practica 2

Funciones:

1.-Suma:

```
suma <- function(x,y) {
  result<- x + y
  print(result)
}
```

```
>suma(2,2)
```

```
|
```

R Global Environment	
values	
contador	68135
i	0.596015064192892
result	0
size	1e+05
Functions	
suma	function (x, y)

2.-Exponencial:

```
1 pow <- function(x, y) {
2   # function to print x raised to the power y
3   result <- x^y
4   print(paste(x,"raised to the power", y, "is", res
5 }
6
7 pow(8, 2)
8
```

```
pow(8, 2)
```

```
[1] "8 raised to the power 2 is 64"
```

```
|
```

3.-Resta:

```
Resta <- function(x,y){
  result <- x-y
  print(paste(x,"-", y, "=", result))
}
```

```
Resta(2,1)
```

```
> Resta(2,1)
[1] "2 - 1 = 1"
>
```

4.-Multiplicación:

```

Multiplicacion <- function(x,y){
  result <- x*y
  print(paste(x,"*", y, "=", result))
}
Multiplicacion(2,2)

```

```

> Multiplicacion(2,2)
[1] "2 * 2 = 4"
> |

```

5.-División:

```

division <- function(x,y){
  result <- x/y
  print(paste(x,"/", y, "=", result))
}
division(10,5)

```

```

> division(10,5)
[1] "10 / 5 = 2"
> |

```

6.-Velocidad

```

25 ▾ velocidad <- function(x,y){
26   result <- x/y
27   print(paste("Distancia:", x,"m ", "Tiempo:", y,"seg"))
28   print(paste(x,"/", y, "=", result,"m"))
29 ▴ }
30 velocidad(10,2)

```

```

> velocidad(10,2)
[1] "Distancia: 10 m Tiempo: 2 seg"
[1] "10 / 2 = 5 m"
> |

```

7.-Tiempo

```

32 ▾ Tiempo <- function(x,y){
33   result <- x/y
34   print(paste("Distancia:", x,"m ", "Tiempo:", y,"m/s"))
35   print(paste(x,"/", y, "=", result,"seg"))
36 ▴ }
37 Tiempo(50,10)

```

```

> Tiempo(50,10)
[1] "Distancia: 50 m Tiempo: 10 m/s"
[1] "50 / 10 = 5 seg"
> |

```

8.-Distancia:

```

39 ▾ Distancia <- function(x,y){
40   result <- x*y
41   print(paste("Distancia:", x,"m/s ", "Tiempo:", y,"s"))
42   print(paste(x,"*", y, "=", result,"m"))
43 ▴ }
44 Distancia(20,5)
45

```

```

> Distancia(20,5)
[1] "Distancia: 20 m/s  Tiempo: 5 s"
[1] "20 * 5 = 100 m"
>

```

9.-Perímetro Rectángulo:

```

45 ▾
46 ▾ PerímetroRectángulo <- function(x){
47   result <- x*4
48   print(paste("a:", x,"m"))
49   print(paste(x,"*", "4", "=", result,"m"))
50 ▴ }
51 PerímetroRectángulo(5)
52 |
53
54

```

52:1 (Top Level) ↕ R Sc

Console Terminal x Jobs x

R 3.6.2 · ~/

```

1] 20 * 5 = 100 m
· PerímetroRectángulo <- function(x){
·   result <- x*4
·   print(paste("a:", x,"m"))
·   print(paste(x,"*", "4", "=", result,"m"))
· }
· PerímetroRectángulo(5)
1] "a: 5 m"
1] "5 * 4 20 m"
· |

```

10.-Perímetro Cuadrado:

```

53 ▾ PerímetroCuadrado <- function(x,y){
54   result <- (2*x)+(2*y)
55   print(paste("l:", x,"ancho:",y))
56   print(paste("Perímetro", result,"m"))
57 ▴ }
58 PerímetroCuadrado(2,2)

```

58:1 (Top Level) ↕

onsole Terminal x Jobs x

R 3.6.2 · ~/

```

1] 5 * 4 20 m
· PerímetroCuadrado <- function(x,y){
·   result <- (2*x)+(2*y)
·   print(paste("l:", x,"ancho:",y))
·   print(paste("Perímetro", result,"m"))
· }
· PerímetroCuadrado(2,2)
1] "l: 2 ancho: 2"
1] "Perímetro 8 m"
· |

```

11.-Circunferencia:

```

60 circunferencia <- function(x){
61   result <- 2*3.16*x
62   print(paste("radio:", x))
63   print(paste("Circunferencia", result))
64 }
65 circunferencia(3)

```

65:1 (Top Level) ↕

Console Terminal x Jobs x

R 3.6.2 · ~/

```

1] Perimetro 8 m
· circunferencia <- function(x){
·   result <- 2*3.16*x
·   print(paste("radio:", x))
·   print(paste("Circunferencia", result))
· }
· circunferencia(3)
[1] "radio: 3"
[1] "Circunferencia 18.96"
· |

```

12.-Area rectangulo:

```

72 areaR <- function(x,y){
73   result <- x*x
74
75   print(paste("area:", result))
76 }
77 areaR(3,5)
78 |
79

```

78:1 (Top Level) ↕

Console Terminal x Jobs x

R 3.6.2 · ~/

```

> areaR <- function(x,y){
+   result <- x*x
+
+   print(paste("area:", result))
+ }
> areaR(3,5)
[1] "area: 9"
> |

```

13.-Area cuadrado:

```

66 areaC <- function(x){
67   result <- x*x
68
69   print(paste("area", result))
70 }
71
72 areaC(5)

```

72:1 (Top Level) ↕

Console

Terminal ×

Jobs ×

R 3.6.2 · ~/

[1] radio: 3

[1] "Circunferencia 18.96"

> areaC <- function(x){

+ result <- x*x

+

+ print(paste("area", result))

+ }

> areaC(5)

[1] "area 25"

> |

14.-Area Triangulo:

```

79 areaT <- function(x,y){
80   result <- (x*y)/2
81
82   print(paste("area:", result))
83 }
84 areaT(5,6)

```

84:1 (Top Level) ↕

Console

Terminal ×

Jobs ×

R 3.6.2 · ~/

> areaT <- function(x,y){

+ result <- (x*y)/2

+

+ print(paste("area:", result))

+ }

> areaT(5,6)

[1] "area: 15"

> |

15.-Area Circulo:

```

85 areaCir <- function(x){
86   result <- 3.14*(x^2)
87
88   print(paste("area:", result))
89 }

```

16.-Raiz cuadrada:

```

92 raiz <- function(x){
93   result <- sqrt(x)
94
95   print(paste("raiz de:",x,"es", result))
96 }
97 raiz(9)
98
99
100

```

97:1 (Top Level) ↕ R

Console	Terminal ×	Jobs ×
R 3.6.2 · ~/		
+ print(paste("raiz de:",x,"es", result))		
+ }		
> raiz(9)		
[1] "raiz de: 9 es 3"		
>		

17.-valor absoluto:

```

99 absoluto <- function(x){
100   result <- abs(x)
101   print(paste("El numero ingresado fue:",x,"su valor absoluto es;",result))
102 }
103 absoluto(-29)
104
105
106

```

103:1 (Top Level) ↕ R Scr


Console	Terminal ×	Jobs ×
R 3.6.2 · ~/		
+ result <- abs(x)		
+ print(paste("El numero ingresado fue:",x,"su valor absoluto es;",result))		
+ }		
> absoluto(-29)		
[1] "El numero ingresado fue: -29 ,su valor absoluto es; 29"		
>		

18.-Teorema de pitágoras:c

```

105 ▾ c <- function(a,b){
106     r <- sqrt(((a)^2)+((b)^2))
107     print(paste("c;",r))
108
109 ▴ }
110 c(5,10)
111
112
113
110:1 (Top Level) ▾

```


Console	Terminal x	Jobs x
 R 3.6.2 · ~/		
<pre> + print(paste(c; ,r)) + + } > c(5,10) [1] "c; 11.1803398874989" </pre>		

19.-Teorema de pitágoras:a

```

110 c(5,10)
111
112 ▾ a <- function(c,b){
113     r <- sqrt(((c)^2)-((b)^2))
114     print(paste("a;",r))
115
116 ▴ }
117 a(10,7)
118
119
120
121
122
123
117:1 (Top Level) ▾

```

Console	Terminal x	Jobs x
 R 3.6.2 · ~/		
<pre> [1] a; NaN warning message: In sqrt(((c)^2) - ((b)^2)) : NaNs produced > a(10,7) [1] "a; 7.14142842854285" </pre>		

20.-Teorema de pitágoras:b

```
119 ▾ b <- function(c,a){  
120   r <- sqrt(((c)^2)-((a)^2))  
121   print(paste("a;",r))  
122  
123 ▴ }  
124 b(34,23)  
125  
126  
127  
128  
129 ◀
```

124:1 (Top Level) ⚡

Console

Terminal ×

Jobs ×



R 3.6.2 · ~/

```
+ print(paste( a; ,r))  
+  
+ }  
> b(34,23)  
[1] "a; 25.0399680510978"  
> |
```