In [1]:

```
a=as.integer(readline("enter the number"))
```

```
enter the number2
```

In [2]:

```
class(a)
```

'integer'

In [3]:

```
a=c(2,3,4,5,6)
```

In [4]:

```
a[2]
```

3

In [12]:

```
a[c(2,5)]=30
```

In [11]:

```
a
```

30 30 30 5 30

In [13]:

```
sort(a
)
```

5 30 30 30 30

In [14]:

```
sort(a,TRUE)
```

30 30 30 30 5

In [17]:

```
b=c(1:50)
```

In [18]:

```
b
```

```
 1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20  21
22  23  24  25  26  27  28  29  30  31  32  33  34  35  36  37  38  39  40
41  42  43  44  45  46  47  48  49  50
```

In [19]:

```
seq(from=10,to=100,by=2)
```

```
 10  12  14  16  18  20  22  24  26  28  30  32  34  36  38  40  42  44  46
 48  50  52  54  56  58  60  62  64  66  68  70  72  74  76  78  80  82  84
 86  88  90  92  94  96  98  100
```

In [20]:

```
seq(from=1,to=5,length.out=10)
```

```
1  1.44444444444444  1.88888888888889  2.33333333333333  2.77777777777778
3.22222222222222  3.66666666666667  4.11111111111111  4.55555555555556  5
```

In [22]:

```
mark=c(1,2,3,4,2,6,7,2,2,2,8)
```

In [23]:

```
paste("the mark 2 count is",sum(mark==2))
```

'the mark 2 count is 5'

In [24]:

```
a=c("java","python","data","python")
get=readline("enter the sub:")
```

```
enter the sub:python
```

In [25]:

```
paste("the count of subject got:",sum(a==get))
```

'the count of subject got: 2'

In [26]:

```
unique(mark)
```

1 2 3 4 6 7 8

In [27]:

```
AIMLmark=c(10,20,30,40,60)
cybmark=c(12,10,40,30,50)
```

In [28]:

```
setdiff(AIMLmark,cybmark)
```

20 60

In [29]:

```
setdiff(cybmark,AIMLmark)
```

12 50

In [31]:

```
paste("the mark 2 count is",(sum(mark==2)*2))
```

'the mark 2 count is 10'

In [1]:

```
#input from user for vector
element=c()
total=as.integer(readline("how many values?"))
for(i in seq (total)){
    element[i]=as.numeric(readline(paste("enter",i,":")))
}
```

```
how many values?4
enter 1 :1
enter 2 :2
enter 3 :3
enter 4 :4
```

In [2]:

```
element
```

1 2 3 4

In [3]:

```
#array
array(c(1,3,5,6,8,6),dim=c(2,3))
```

```
 1  5  8
 3  6  6
```

In [4]:

```
v1=c(1,3,4,5)
v2=c(10,11,21,51,13,13)
```

In [5]:

```
a=array(c(v1,v2),dim=c(3,3,2))
```

In [6]:

```
print(a)
```

```
, , 1

     [,1] [,2] [,3]
[1,]    1    5   21
[2,]    3   10   51
[3,]    4   11   13

, , 2

     [,1] [,2] [,3]
[1,]   13    4   11
[2,]    1    5   21
[3,]    3   10   51
```

In [8]:

```
#print 2nd row of 2nd matrix
a[2,,2]#row,col,matrix
```

```
1  5  21
```

In [9]:

```
a[3,3,1]#3rd row 3rd col 1st matrix
```

```
13
```

In [10]:

```
#write a r program to create 2d 5*3 array of sequence of even integer greater than 50
array(seq(from=50,length.out=15,by=2),dim=c(5,3))
```

```
50  60  70
52  62  72
54  64  74
56  66  76
58  68  78
```

In [14]:

```
#matrix
matrix(c(1:16),nrow=4,ncol=4,byrow=TRUE)
```

```
 1   2   3   4
 5   6   7   8
 9  10  11  12
13  14  15  16
```

In [15]:

```
rname=c("r1","r2","r3","r4")
cname=c("c1","c2","c3","c4")
matrix(c(1:16),nrow=4,ncol=4,byrow=TRUE,dimnames=list(rname,cname))
```

	c1	c2	c3	c4
r1	1	2	3	4
r2	5	6	7	8
r3	9	10	11	12
r4	13	14	15	16

In [16]:

```
#FACTOR
a=factor(c("java","python","java","python","c"))
```

In [17]:

```
a
```

java python java python c

▶ **Levels**:

In [18]:

```
table(a)
```

```
a
     c   java python
     1      2      2
```

In [20]:

```
#dataframe
df=data.frame(emp_id=c(1,2,3),emp_name=c("sivane","ruthvika","asrita"),emp_date=as.Date(
```

In [21]:

```
df
```

emp_id	emp_name	emp_date	gender
1	sivane	0009-11-20	f
2	ruthvika	0003-06-20	f
3	asrita	0001-09-20	f

In [22]:

```
table(df$gen)
```

```
f
3
```

In [23]:

```
str(df)
```

```
'data.frame':   3 obs. of  4 variables:
 $ emp_id  : num  1 2 3
 $ emp_name: Factor w/ 3 levels "asrita","ruthvika",..: 3 2 1
 $ emp_date: Date, format: "0009-11-20" "0003-06-20" ...
 $ gender  : Factor w/ 1 level "f": 1 1 1
```

In [24]:

```
summary(df)
```

```
     emp_id        emp_name    emp_date          gender
 Min.   :1.0   asrita  :1   Min.   :0001-09-20   f:3
 1st Qu.:1.5   ruthvika:1   1st Qu.:0002-08-05
 Median :2.0   sivane  :1   Median :0003-06-20
 Mean   :2.0                Mean   :0005-01-09
 3rd Qu.:2.5                3rd Qu.:0006-09-04
 Max.   :3.0                Max.   :0009-11-20
```

In [25]:

```
data.frame(df$emp_name,df$emp_id)
```

df.emp_name	df.emp_id
sivane	1
ruthvika	2
asrita	3

In [27]:

```
#sort with joining date
df[with(df,order(c(emp_name)))]
```

emp_date	emp_name	emp_id
0009-11-20	sivane	1
0003-06-20	ruthvika	2
0001-09-20	asrita	3

In [ ]:

```

```

In [ ]:

```

```