In [ ]:

```
firstname="Nanthiesh"
firstname.lastname="devil"
```

In [2]:

```
firstname
```

'Nanthiesh'

In [3]:

```
score=6969
```

In [4]:

```
##class is used to check the type of variable
class(firstname)
class(score)
```

'character'

'numeric'

In [5]:

```
name="Mathew"
Dept="AIML"
paste(name,Dept) ##paste is used for printing more than two values
```

'Mathew AIML'

In [6]:

```
##print is used to print only one value.
print(name)
```

```
[1] "Mathew"
```

In [7]:

```
##readline is used to get input from the user:
## Assignment Operator:   = (or) <-

d<-readline("Enter the Value: ")
```

```
Enter the Value: 123
```

In [8]:

```
class(d)
```

'character'

In [9]:

```
## converting datatype into another datatype using "as"
d=as.integer(d)
```

In [10]:

```
class(d)
```

'integer'

In [11]:

```
d=as.numeric(d)
```

In [12]:

```
class(d)
```

'numeric'

In [13]:

```
paste("The value of d is: ",d)
```

'The value of d is: 123'

In [14]:

```
# to find the area of donut:
# formula: πr2. 2πR

pi<-3.14
r<-readline("Enter the value of r: ")
```

```
Enter the value of r: 20
```

In [15]:

```
class(r)
```

'character'

In [20]:

```
r=as.numeric(r)
pi=as.numeric(pi)
```

In [18]:

```
class(r)
```

'numeric'

In [19]:

```
d=r*r
d
```

400

In [21]:

```
area=(pi*d)*(2*pi*r)
```

In [22]:

```
area
```

157753.6

In [28]:

```
paste("The Area of Donut: ",area,"cm")
```

'The Area of Donut: 157753.6 cm'

In [4]:

```
# ceiling => for next number
# floor => for the previous number

ceiling(10.2)
floor(10.5)
```

11

10

In [18]:

```
# vectors:
a=c(10,20,30,40,50,60,70,80,90)
```

In [6]:

```
class(a)
```

'numeric'

In [7]:

```
# vector element index value starts from 1 not 0
a[1]
```

10

In [9]:

```
# a[start:stop]
a[2:4]
```

20 30

In [10]:

```
a1=c("True","False")
```

In [11]:

```
a2=c("hello", "welcome")
```

In [12]:

```
# using list operator
l=list(a,a1,a2)
l
```

1. 10 20 30 40 50
2. 'True' 'False'
3. 'hello' 'welcome'

In [13]:

```
a
```

10 20 30 40 50

In [14]:

```
a[2] = 150
```

In [15]:

```
a
```

10 150 30 40 50

In [22]:

```
a[c(1,3)]=200
```

In [23]:

```
a
```

200 20 200 40 50 60 70 80 90

In [ ]:

```

```

In [24]:

```
sort(a)
```

```
20  40  50  60  70  80  90  200  200
```

In [25]:

```
# replicating values:
a=rep(c(1,2,3),each=3)
```

In [26]:

```
a
```

```
1  1  1  2  2  2  3  3  3
```

In [27]:

```
a=rep(c(1,2,3),times=c(3,5,1))
a
```

```
1  1  1  2  2  2  2  2  3
```

In [28]:

```
a=rep(c(1,2,3),times=3)
a
```

```
1  2  3  1  2  3  1  2  3
```

```
Summary:
1.  Data Science
2.  why to use DS
3.  process in DS
4.  diff b/w BI and DS
5.  Domains of DS
6.  R basics: Variables
7.  Data Types - Vector and List
8.  Input from the user
9.  Area of the donut
10. list
11. vectors
```