

## **Task 1: Data structures in R**



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# Data structure using R

## 1) Vector

```
a<-c("Ashwin","Babu","Bharathraj","Bharadwaj","Chandeesh","Deepak","Dinesh")
```

```
b <- a[c(2,6,1)]
```

```
print(b)
```

```
> a <- c("Ashwin","Babu","Bharathraj","Bharadwaj","Chandeesh","Deepak","Dinesh")
> b <- a[c(2,6,1)]
> print(b)
[1] "Babu" "Deepak" "Ashwin"
```

## 2) List

```
list1<- list("Kumar", "Barath", c(8,2,67), FALSE, 32.02)
```

```
print(list1)
```

```
> list1<- list("Kumar", "Barath", c(8,2,67), FALSE, 32.02)
> print(list1)
[[1]]
[1] "Kumar"

[[2]]
[1] "Barath"

[[3]]
[1] 8 2 67

[[4]]
[1] FALSE

[[5]]
[1] 32.02
```

### 3) Data frame

```
stdid <- c(1:4)
stdname <- c("Babu","Bharathraj","Surya","Vijay")
stddept <- c("CSE","ECE","AI","EEE")
std.data <- data.frame(stdid,stdname,stddept)
print(std.data)
```

	stdid	stdname	stddept
1	1	Babu	CSE
2	2	Bharathraj	ECE
3	3	Surya	AI
4	4	Vijay	EEE

### 4) Matrix

```
A <- matrix(c(1:9), nrow = 3, ncol =3, byrow= TRUE)
print(A)
```

```
> A <- matrix(c(1:9), nrow = 3, ncol =3, byrow= TRUE)
> print(A)
      [,1] [,2] [,3]
[1,]    1    2    3
[2,]    4    5    6
[3,]    7    8    9
```

## 5) Array

```
A = array(c(1:8), dim = c(2, 2, 2))
```

```
print(A)
```

```
> A = array(c(1:8), dim = c(2, 2, 2))
> print(A)
, , 1
     [,1] [,2]
[1,]    1    3
[2,]    2    4

, , 2
     [,1] [,2]
[1,]    5    7
[2,]    6    8
```

## 6) Factor

```
data <- c("Male","Female","Male","Child","Child","Male","Female","Female")
print(data)
factor.data <- factor(data)
print(factor.data)
```

```
> data <- c("Male","Female","Male","Child","Child","Male","Female","Female")
> print(data)
[1] "Male" "Female" "Male" "Child" "Child" "Male" "Female" "Female"
> factor.data <- factor(data)
> print(factor.data)
[1] Male Female Male Child Child Male Female Female
Levels: Child Female Male
```