A.S.A Lab Assignment 2

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Q. ***To perform different opeartions on R data Structure***

a. list

b.Array

c. vector

d. matrices

e. Data frame.

```r
# Creating a list
my_list <- list(name = "Swanand", age = 18, city = "Pune")

# Creating an array
my_array <- array(c(1, 2, 3, 4, 5, 6), dim = c(2, 3))

# Creating a vector
my_vector <- c(10, 20, 30, 40, 50)

# Creating a matrix
my_matrix <- matrix(1:9, nrow = 3, ncol = 3)

# Creating a data frame
my_data <- data.frame(
  student = c("Aditi", "Maitrey", "Aditya"),
  score = c(85, 92, 78),
  grade = c("A", "A", "B")
)

# Operations on list
cat("List - Name:", my_list$name, "Age:", my_list$age, "City:", my_list$city,
"\n")

# Operations on array
cat("Array - Element at (1, 2):", my_array[1, 2], "\n")

# Operations on vector
cat("Vector - Sum:", sum(my_vector), "Mean:", mean(my_vector), "\n")

# Operations on matrix
cat("Matrix - Transpose:\n")
print(t(my_matrix))

# Operations on data frame
cat("Data Frame - Student Names:", my_data$student, "\n")
```

Output:

List:

my_list	list [3]	List of length 3
name	character [1]	'Swanand'
age	double [1]	18
city	character [1]	'Pune'

Array:

	V1	V2	V3
1	1	3	5
2	2	4	6

Vector:

```
Vector - Sum: 150 Mean: 30
>
```

Matrix:

	V1	V2	V3
1	1	4	7
2	2	5	8
3	3	6	9

My Data:

	student	score	grade
1	Aditi	85	A
2	Saanvi	92	A
3	Aahna	78	B