

1. Write a R program to create a vector with user specified value.**Code:-**

```
length <- as.integer(readline(prompt = "Enter the length of the vector: "))
vector <- numeric(length)

for (i in 1:length) {
  vector[i] <- as.integer(readline(prompt = paste("Enter value for element", i, ": ")))
}

print(vector)
```

2. Create vector and make sum of all even numbers and odd numbers.**Code:-**

```
length <- as.integer(readline(prompt = "Enter the length of the vector: "))
vector <- numeric(length)

for (i in 1:length) {
  vector[i] <- as.integer(readline(prompt = paste("Enter value for element", i, ": ")))
}

sum_even <- sum(vector[vector %% 2 == 0])
sum_odd <- sum(vector[vector %% 2 != 0])

cat("Vector:", vector, "\n")

cat("Sum of even numbers:", sum_even, "\n")
cat("Sum of odd numbers:", sum_odd, "\n")
```

3. Create vector of students name and ask user one character. Find out occurrences of each character in each name.

Code:-

```
num_students <- as.integer(readline(prompt = "Enter the number of students: "))

students <- character(num_students)

for (i in 1:num_students) {
  students[i] <- readline(prompt = paste("Enter name for student", i, ": "))
}

search_char <- readline(prompt = "Enter a character to search for: ")

search_char <- tolower(search_char)

for (name in students) {
  name_lower <- tolower(name)
  chars <- strsplit(name_lower, NULL)[[1]]
  count <- sum(chars == search_char)
  cat("The character", search_char, "occurs", count, "times in the name", name, "\n")
}
```