**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")

}