**Assignment 16.2**

1. Write a function called sum\_of\_cubes, that calculates the sum of cubes of the first n natural numbers :

• if we have two numbers : 1, 2 then sum of squares is 9 ( 1^3 + 2^3)

• if we have three numbers : 1, 2, 3 then sum of squares is 36 ( 1^3 + 2^3 + 3^3)

**ANS:**

* **n = 2**

**> x = 1:n**

**> sum(x\*x\*x)**

* **n=3**

**> x = 1:n**

**> sum(x\*x\*x)**

1. Write a function to calculate the mode (highest frequency) of the following vector: x = c(2,3,3,4,4,5,6,7,9,10)

**ANS: > x = c(2,3,3,4,4,5,6,7,9,10)**

**> x**

**[1] 2 3 3 4 4 5 6 7 9 10**

**> temp = table(as.vector(x))**

**> names(temp)[temp == max(temp)]**

3.Write a function to calculate the no. of prime numbers of the following vector : x = c(2,2,3,3,4,5,7,11,15,19,24,29)

**ANS:** **x = c(2,2,3,3,4,5,7,11,15,19,24,29)**

**Noofprimes(x)**

**Noofprimes = function(x)**

**{**

**p=is\_prime(x)**

**print(p)**

**print("the no of prime in x is")**

**length(subset(p,p =="TRUE"))**

**}**

 