**Assignment 14.2**

4. Use the function paste to create the following character vectors of length 30:

**ANS: (a)** > paste("label", 1:30)

[1] "label 1" "label 2" "label 3" "label 4" "label 5" "label 6" "label 7" "label 8"

[9] "label 9" "label 10" "label 11" "label 12" "label 13" "label 14" "label 15" "label 16"

[17] "label 17" "label 18" "label 19" "label 20" "label 21" "label 22" "label 23" "label 24"

[25] "label 25" "label 26" "label 27" "label 28" "label 29" "label 30"

**ANS: (b)** > paste("fn", 1:30,sep="")

[1] "fn1" "fn2" "fn3" "fn4" "fn5" "fn6" "fn7" "fn8" "fn9" "fn10" "fn11" "fn12"

[13] "fn13" "fn14" "fn15" "fn16" "fn17" "fn18" "fn19" "fn20" "fn21" "fn22" "fn23" "fn24"

[25] "fn25" "fn26" "fn27" "fn28" "fn29" "fn30"

5. Calculate compound interest

**ANS: > CI= 10000\*(1+11.5/100)**

**> CI**

**[1] 11150**

6. Generate the following matrices

**ANS: > xy = cbind(1:5,101:105,201:205,301:305)**

**> xy**

**[,1] [,2] [,3] [,4]**

**[1,] 1 101 201 301**

**[2,] 2 102 202 302**

**[3,] 3 103 203 303**

**[4,] 4 104 204 304**

**[5,] 5 105 205 305**

7. Create a 6 by 10 matrix od random integers chosen from 1to 10 b:y executing following two lines of code

> **set.seed(100)**

**> GMAT = matrix(sample(10,size = 60,replace = T),nrow = 6)**

**> GMAT**

1. **ANS: > apply(GMAT, 1, function(x){sum(x>4)})**
2. **ANS: >which( apply(GMAT,1,function(x){sum(x==7)==2}) )**
3. **ANS: > GMATColSums <- colSums(GMAT)**

**> cbind( rep(1:10,rep(10,10)), rep(1:10,10) )**

**[outer(GMATColSums,GMATColSums,"+")>75,]**