Assignment (Manjeet Singh)

Ans-1 :-Create the vectors

a)

```
> x <- c(2:30)
> x
 [1]  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22
[22] 23 24 25 26 27 28 29 30
```

b)

```
> x<- (30:2)
> x
 [1] 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10
[22]  9  8  7  6  5  4  3  2
```

c)

```
> x<- c(1:30, 29:1)
> x
 [1]  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21
[22] 22 23 24 25 26 27 28 29 30 29 28 27 26 25 24 23 22 21 20 19 18
[43] 17 16 15 14 13 12 11 10  9  8  7  6  5  4  3  2  1
```

d)

```
> dev <- c (4,6,3)
> dev
[1] 4 6 3
```

e)

```
> dev <- c (5,6,7)
> rep(dev, 10)
 [1] 5 6 7 5 6 7 5 6 7 5 6 7 5 6 7 5 6 7 5 6 7 5 6 7 5 6 7 5 6 7
>
```

f)

```
> rep(dev,l= 31)
 [1] 5 6 7 5 6 7 5 6 7 5 6 7 5 6 7 5 6 7 5 6 7 5 6 7 5 6 7 5 6 7 5
>
```

g)

```
> dev <- c(4,6,3)
> rep(dev, times= c(10,20,30))
 [1] 4 4 4 4 4 4 4 4 4 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 3 3
[33] 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
```

2) Create a vector of the values of eX sin(x) at x = 3, 3.1, 3.2, , 6

Ans - 2

```
> dev <- seq(3,6, by=0.1)
> exp(dev)*sin(dev)
 [1]    2.8344711    0.9230055   -1.4320654   -4.2769020   -7.6570591
 [6]  -11.6163451  -16.1954669  -21.4304437  -27.3507725  -33.9773327
[11]  -41.3200162  -49.3750762  -58.1221905  -67.5212405  -77.5088155
[16]  -87.9944570  -98.8566695 -109.9387348 -121.0443775 -131.9333449
[21] -142.3169809 -151.8538900 -160.1458060 -166.7338044 -171.0950158
[26] -172.6400256 -170.7111690 -164.5819569 -153.4578954 -136.4789910
[31] -112.7242573
>
```

3) Ans :-
a) y[y < 500]
b) (1: Length(y)) [y > 700]
c) x[y > 400]
d) sum(y > max(y) - 200)
e) sum(x %% 2 == 0)
f) x[Order(y)]
g) x[-c(249,250)] + 2*x [-c(1,250)] -x[-c(1,2)]
h) There is nothing in the statement to calculate ????

4) Ans -:
a)

```
> paste("Label" , 1:30)
 [1] "Label 1"  "Label 2"  "Label 3"  "Label 4"  "Label 5"
 [6] "Label 6"  "Label 7"  "Label 8"  "Label 9"  "Label 10"
[11] "Label 11" "Label 12" "Label 13" "Label 14" "Label 15"
[16] "Label 16" "Label 17" "Label 18" "Label 19" "Label 20"
[21] "Label 21" "Label 22" "Label 23" "Label 24" "Label 25"
[26] "Label 26" "Label 27" "Label 28" "Label 29" "Label 30"
```

b)

```
> paste("FN",1:30 ,sep ="")
 [1] "FN1"  "FN2"  "FN3"  "FN4"  "FN5"  "FN6"  "FN7"  "FN8"  "FN9"
[10] "FN10" "FN11" "FN12" "FN13" "FN14" "FN15" "FN16" "FN17" "FN18"
[19] "FN19" "FN20" "FN21" "FN22" "FN23" "FN24" "FN25" "FN26" "FN27"
[28] "FN28" "FN29" "FN30"
```

5) Ans :

```
> P <- 10000
> R <- 11.5
> n <- 15
> A <- P * (1+R/100)^n
> A
[1] 51182.68
>
```

6) Ans :-

```
> x = c(1,2,3,4)
> y = c(101,102,103,104)
> z = c(201,202,203,204)
> w = c(301,302,303,304)
> m =cbind(x,y)
> m =cbind(m,z)
> m =cbind(m,w)
> m = matrix(m, 4,4)
> m
     [,1] [,2] [,3] [,4]
[1,]    1  101  201  301
[2,]    2  102  202  302
[3,]    3  103  203  303
[4,]    4  104  204  304
>
```