#creation of matrix:-

```
P <- matrix(c(5:16), nrow = 4, byrow = TRUE)
print(P)

Q <- matrix(c(3:14), nrow = 4, byrow = FALSE)
print(Q)
```

#operations on Matrix:-

#1)Addition:-

```
sum<-P+Q
print(sum)
```

#2)Subtraction:-

```
sub<-P-Q
print(sub)
```

#3)Multiplication(*):-

```
mult<-P*Q
print(mult)
```

#4)Multiplication(by constant):-

```
mult<-P*5
print(mult)
```

#5)Division:-

```
div<-P/Q
div
```

OUTPUT:-

```
#creation of matrix:-
>         P <- matrix(c(5:16), nrow = 4, byrow = TRUE)
>         print(P)
     [,1] [,2] [,3]
[1,]    5    6    7
[2,]    8    9   10
[3,]   11   12   13
[4,]   14   15   16
>
>         Q <- matrix(c(3:14), nrow = 4, byrow = FALSE)
>         print(Q)
     [,1] [,2] [,3]
[1,]    3    7   11
[2,]    4    8   12
[3,]    5    9   13
[4,]    6   10   14
>
> #operations on Matrix:-
> #1)Addition:-
>         sum<-P+Q
>         print(sum)
     [,1] [,2] [,3]
```

```
[1,]    8   13   18
[2,]   12   17   22
[3,]   16   21   26
[4,]   20   25   30
> #2)Subtraction:-
>         sub<-P-Q
>         print(sub)
    [,1] [,2] [,3]
[1,]    2   -1   -4
[2,]    4    1   -2
[3,]    6    3    0
[4,]    8    5    2
> #3)Multiplication(*):-
>         mult<-P*Q
>         print(mult)
    [,1] [,2] [,3]
[1,]   15   42   77
[2,]   32   72  120
[3,]   55  108  169
[4,]   84  150  224
> #4)Multiplication(by constant):-
>         mult<-P*5
>         print(mult)
    [,1] [,2] [,3]
[1,]   25   30   35
[2,]   40   45   50
[3,]   55   60   65
[4,]   70   75   80
> #5)Division:-
>         div<-P/Q
>   div
       [,1]     [,2]     [,3]
[1,] 1.666667 0.8571429 0.6363636
[2,] 2.000000 1.1250000 0.8333333
[3,] 2.200000 1.3333333 1.0000000
[4,] 2.333333 1.5000000 1.1428571
>
```