```
a=100
b=20                    o/p => 120
a+b                     80
a-b                     2000
a*b                     0
a%%b
```

Area of triangle:

```
a=10                                  o/p => 15
b=10                                         43.30127
c=10
s=(a+b+c)/2
print(s)
A=sqrt(s*(s-a)*(s-b)*(s-c))
print(A)
```

Area of circle:

```
r=3     Pi=3.1416          o/P => Area of Circle = 28.26
print(print("Area of circle: ", Pi*r*r))
```

Swapping numbers:

```
a=10
b=20
print(print("Before swapping: ", a, b))
print(print("After swapping: ", a, b))
```

temp=a
a=b
b=temp

Date: / /

Output:

Before swapping : 10 20

After swapping : 20 10

Average Marks:

```
name = readline(prompt = "Input name: ")
age = readline(prompt = "Input age: ")
print(paste("My name is", name, "and I am", age,
            "years old."))
m1 = as.numeric(readline(prompt = "S1: "))
m2 = as.numeric(readline(prompt = "S2: "))
m3 = as.numeric(readline(prompt = "S3: "))
avg = (m1+m2+m3)/3
print(paste("Average marks in three subjects :", avg))
```

O/P => Input name: Brijuin

Input age: 20

My name is Brijuin and I am 20 years old.

S1: 95

S2: 90

S3: 95

Average marks in three subjects: 93.33

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if.sr:

```
a=20
b=24
c=0
if(a<b)
{
cat(a,"is a small number\n")
c=1
}
if(c==1)
{
cat("Block successfully executed
}
```

Syntax:

```
if (condition)
{
Statements
}
```

o/p => 20 is a small number
Block successfully executed

ifelse.sr:

```
a=100
if(a<20)
{
cat(a,"is less than 20")
} else
{
cat(a,"is greater than 20")
}
```

Syntax: if(condition)
{ statement } else
{ statement 1 }

o/p => 100 is greater than 20

ifelseif.sr:

```
a=readline(prompt="Enter your age:")
a=as.integer(a)
if(a<18)
```

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```
{
print ('You are a child')
} elseif (a<45)                    O/P=> Enter your age: 30
{                                        You are an adult.
print ('You are an adult')
} else
{
print ("You are an old guy")
}
```

prime.r :

```
n = as.integer(readline(prompt = "Enter the number:"))
fac=1
if(num<0){
  print("Factorial does not exist")
}else if(num==0){
  print("Factorial of 0 is 1")
}else{
  for(i in 1:num){
    fac=fac*i
}
```

```
print(paste("Factorial of ", num, "is ", factorial))
}
```

Output:

1) Enter the number: 5
The factorial of 5 is 120

2) Enter the number: -1
Factorial does not exist.

fibbonacci:

```
n = as.integer(readline(prompt="Enter the number of terms: "))
n1 = 0
n2 = 0
i = 2
if (n < 0){
  print("Invalid input")
} else {
  if(n == 1){
    print("Fibbonacci sequence:")
    print(n1)
  } else{
    print("Fibbonacci sequence:")
    print(n1)
    print(n2)
```

```
while (i<n){
    n3=n1+n2
    print(n3)
      n1=n2
      n2=n3
      i=i+1
  }
}
```

Output:

1) Enter the number of terms: 3

Fibonacci sequence:

0

1

1

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Date: / /

Q. Write R program to create a sequence of numbers from 20 to 50 and find mean of numbers from 20 to 60 and sum of numbers from 51 to 91.

```
print("Sequence of numbers from 20 to 50:")
print(seq(20,50))
print("mean of numbers from 20 to 60:")
print(mean(20:60))
print("Sum of numbers from 51 to 91:")
print(sum(51:91))
```

Output:

```
 1  2  3  4  5  6
 8  9 10 11 12 13
15 16 17 18 19 20
22 23 24 25 26 27
29 30 31
```

40

2911

Q. Write a R program to create a vector with which contains from -50 to +50 (random integer values).

```
v = sample(-50:50, 10, replace = TRUE)
print("content of vector:")
print("10 random integer values between -50 and +50:")
print(v)
```

output:

"Content of vector:"

"10 random integer values between -50 and +50:"

-43 33 -9 -36 44 -7 -21 12 18 3

Q. Write a R- program to print numbers from 1 to 100 and print "Fizz" for multiple of 3, print "Buzz" for multiple of 5, print "Fizz Buzz" for multiple of both.

```
for (n in 1:100){
if(n%%3==0& n%%5==0){
   print("Fizz Buzz")
}
else if(n%%3==0){print("Fizz")}
else if(n%%5==0){print("Buzz")}
else print(n)
}
```

Output:

```
c=as.integer(readline(prompt="Enter Value of C : "))
if(a==0){
  print(paste("Not a Quadratic Equation"))
}
d=(b*b)-4*a*c
if(d==0){
  r1=r2=((-b)/(2*a))
  print(paste("Roots are Real & Equal"))
  print(paste("Roots are : ",r1,"&",r2))
}else if(d>0){
  r1=(((-b)+sqrt(d))/(2*a))
  r2=(((-b)-sqrt(d))/(2*a))
  print(paste("Roots are Real & Distinct"))
  print(paste("Roots are : ",r1,r2))
}else{
  real1=((-b)/(2*a))
  im=(sqrt(abs(d))/2*a)
  print(paste("Roots are Imaginary & Distinct"))
  print(paste("Roots are : ",real1,"+",im,"j &",real1,"+",im,"j"))
}
```

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1:1 (Top Level)

Console Terminal Jobs

R Script

Prime.n:

```
n=as.integer(readline(prompt="Enter the numbr:"))
flag=0
if(n>1){
 flag=1
 for(i in 2:(n-1))
   if((num %% i)==0){
     flag=0
     break
   }
}
if(n==2)
  flag=1
if(flag==1){
  print(paste(n, "is a prime numbr"))
}
else{
print(paste(n, "is not a prime numbr"))
}
```

output:

Enter a numbr: 19

19 is a prime numbr