

question 1

```
clear all;
clc;
sum1=0;sum2=0;
n=input('enter the value of n :\n');
for i = 1:n
    sum1 = sum1+i;
end
fprintf('\n sum from the series is %d', sum1)
```

sum from the series is 15

```
sum2=n*(n+1)/2;
fprintf('\n sum from the guessed formula is %d', sum2)
```

sum from the guessed formula is 15

```
if sum1 == sum2
    fprintf('\n your guess formula is right \n')
else
    fprintf('\n your guess formula is wrong \n')
end
```

your guess formula is right

question 2

```
clear all;
clc;
sum1=0;sum2=0;
n=input('enter the value of n :\n');
for i = 1:n
    sum1=sum1+i^2;
end
fprintf('\n sum from the series is %d', sum1)
```

sum from the series is 55

```
sum2=n*(n+1)*(2*n+1)/6;
fprintf('\n sum from the guessed formula is %d', sum2)
```

sum from the guessed formula is 55

```
if sum1 == sum2
    fprintf('\n your guess formula is right \n')
else
    fprintf('\n your guess formula is wrong \n')
end
```

your guess formula is right

question 3 (for cube)

```

clear all;
clc;
sum1=0;sum2=0;
n=input('enter the value of n :\n');
for i = 1:n
    sum1=sum1+i^3;
end
fprintf('\n sum from the series is %d', sum1)

```

sum from the series is 225

```
sum2=(n*(n+1)/2).^2
```

```
sum2 =
225
```

```
fprintf('\n sum from the guessed formula is %d', sum2)
```

sum from the guessed formula is 225

```

if sum1 == sum2
    fprintf('\n erm...your guess formula is right! \n')
else
    fprintf('\n your guess formula is wrong.... \n')
end

```

erm...your guess formula is right!

question 4

a)

```

sum1 = 0;
n = input('Enter the value of n:\n');
for i = 1:n
    sum1 = sum1 + (2*i-1);
end
fprintf('\nSum from the series is %d',sum1);

```

Sum from the series is 25

```

sum2 = n^2;
fprintf('\nSum from the guessed formula is %d',sum2);

```

Sum from the guessed formula is 25

```

if sum1 == sum2
    fprintf('\nYour guessed formula is correct.\n');
else
    fprintf('\nYour guessed formula is incorrect.\n');
end

```

Your guessed formula is correct.

b)

```
sum1 = 0;
n = input('Enter the value of n:\n');
for i = 1:n
    sum1 = sum1 + (2*i);
end
fprintf('\nSum from the series is %d',sum1);
```

Sum from the series is 30

```
sum2 = n*(n+1);
fprintf('\nSum from the guessed formula is %d',sum2);
```

Sum from the guessed formula is 30

```
if sum1 == sum2
    fprintf('\nYour guessed formula is correct.\n');
else
    fprintf('\nYour guessed formula is incorrect.\n');
end
```

Your guessed formula is correct.

c)

```
sum1 = 0;
n = input('Enter the value of n:\n');
for i = 1:n
    sum1 = sum1 + (2*i)^2;
end
fprintf('\nSum from the series is %d',sum1);
```

Sum from the series is 220

```
sum2 = (2*n*(n + 1)*(2*n+1))/3 ;
fprintf('\nSum from the guessed formula is %d',sum2);
```

Sum from the guessed formula is 220

```
if sum1 == sum2
    fprintf('\nYour guessed formula is correct.\n');
else
    fprintf('\nYour guessed formula is incorrect.\n');
end
```

Your guessed formula is correct.

d)

```
sum1 = 0;
```

```
n = input('Enter the value of n:\n');
for i = 1:n
    sum1 = sum1 + (2*i-1)^2;
end
fprintf('\nSum from the series is %d',sum1);
```

Sum from the series is 165

```
sum2 = (n*(2*n-1)*(2*n+1))/3;
fprintf('\nSum from the guessed formula is %d',sum2);
```

Sum from the guessed formula is 165

```
if sum1 == sum2
    fprintf('\nYour guessed formula is correct.\n');
else
    fprintf('\nYour guessed formula is incorrect.\n');
end
```

Your guessed formula is correct.

question 5

```
n=input("Enter value of n: ")
```

```
n =
55
```

```
sum=0
```

```
sum =
0
```

```
for i=1:2:(2*n+1)
3
    sum=sum+i^2;
end
```

```
ans =
3
ans =
3
ans =
3
ans =
3
ans =
3
ans =
3
ans =
3
ans =
3
ans =
3
ans =
3
ans =
3
ans =
3
```

[illegible]

```
ans =  
3  
ans =  
3  
ans =  
3  
ans =  
3  
ans =  
3  
ans =  
3  
ans =  
3  
ans =  
3  
ans =  
3  
ans =  
3  
ans =  
3
```

```
series=((n+1)*(2*n+1)*(2*n+3))/3;  
if sum==series  
    fprintf("it is correct!")  
else  
    fprintf("its wrong")  
end
```

it is correct!

question 6

```
n=input("Enter a number: ")
```

```
n =  
5
```

```
sum=0
```

```
sum =  
0
```

```
for i=1:n  
    sum=sum+(i*factorial(i));  
end  
series=factorial((n+1))-1;  
if sum==series  
    fprintf("its correct")  
else  
    fprintf("its wrong")  
end
```

its correct

question 7

```
n=input("Enter a number: ")
```

```
n =  
5
```

```
sum=0
```

```
sum =  
0
```

```
for i=0:n  
    sum=sum+(3*(5^i));  
end  
series= 3*(5^(n+1)-1)/4;  
if sum==series  
    fprintf("correct")  
else  
    fprintf("try again its wrong")  
end
```

```
correct
```

question 8

```
n=input("Enter a number: ")
```

```
n =  
5
```

```
sum=0
```

```
sum =  
0
```

```
for i=0:n  
    sum=sum+(2*((-7)^i));  
end  
series=(1-(-7)^(n+1))/4;  
if sum==series  
4  
    fprintf("its correct")  
else  
    fprintf("its wrong")  
end
```

```
ans =  
4  
its correct
```

question 9

```
n=input("Enter number: ")
```

```
n =  
5
```

```
sum=0
```

```
sum =  
0
```

```
count=0
```

```
count =  
0
```

```
i=2
```

```
i =  
2
```

```
while count<=n  
    if rem(i,2)==0  
        sum=sum+i;  
        count=count+1;  
    end  
    i=i+1;  
end  
ans=sum
```

```
ans =  
30
```

question 10 a)

```
clear all;  
clc;  
n=input("Enter value of n: ")  
sum=0  
for i=1:n  
    sum=sum+ 1/(i*(i+1));  
end  
sum
```

question 11)

```
n=input("Enter n: ")  
sum=0  
for i=1:n  
    sum=sum+(1/(2^i));  
end  
sum
```