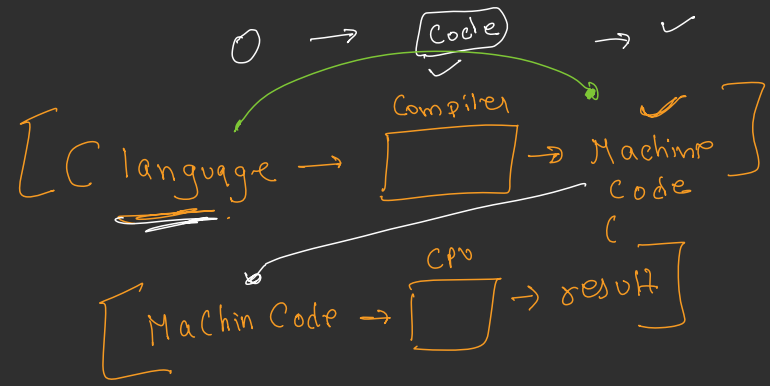
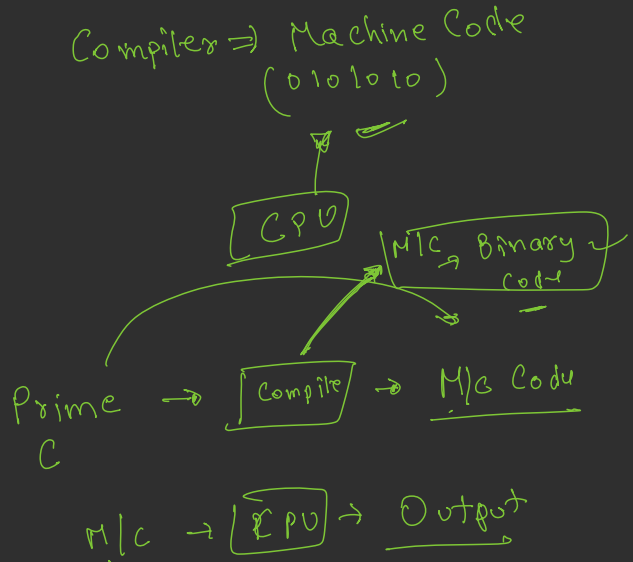
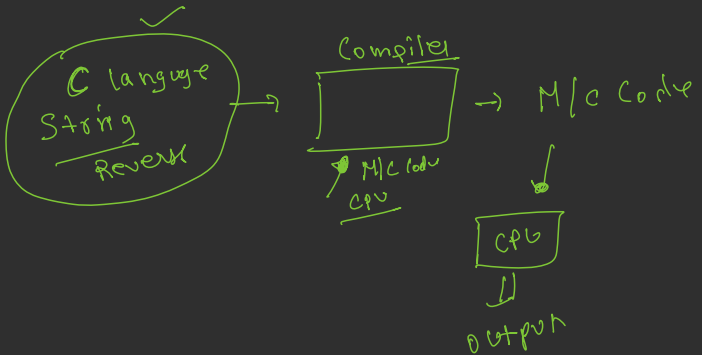
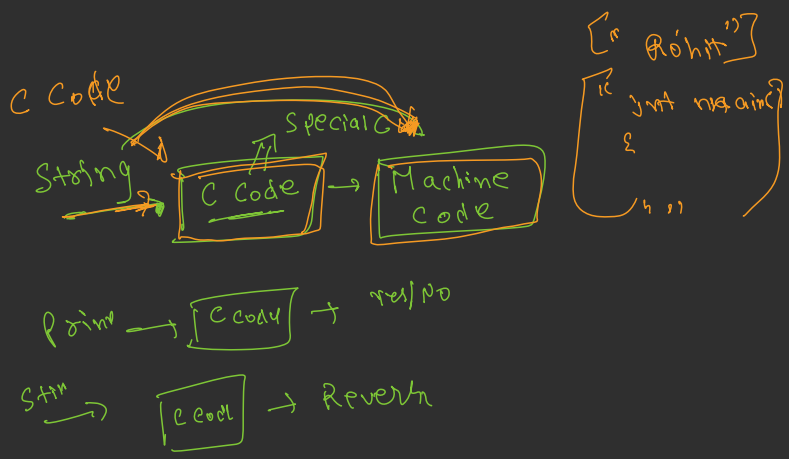
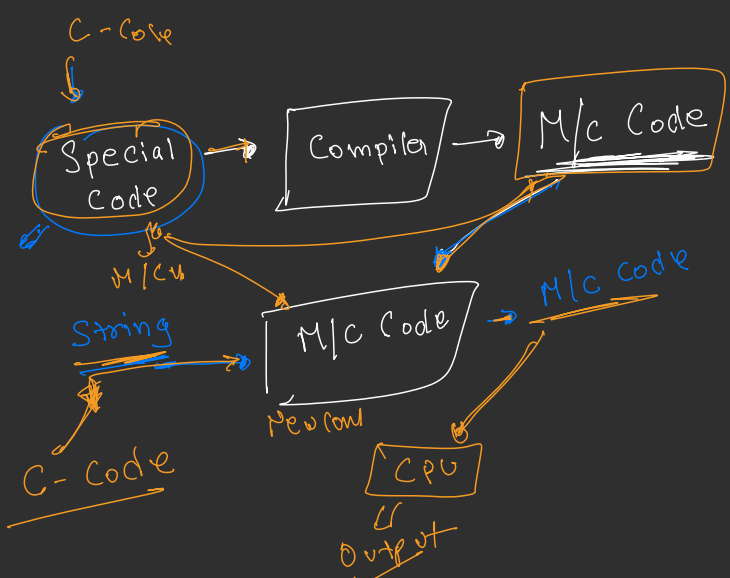


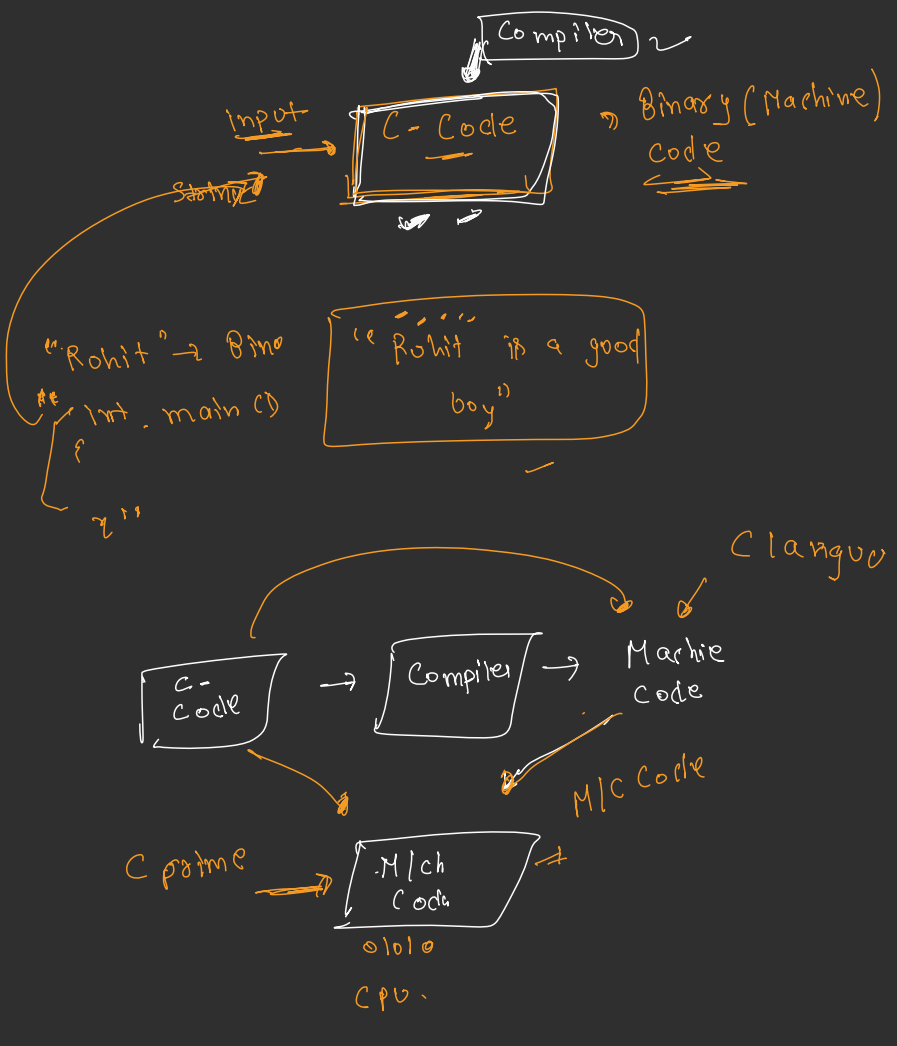
[Binary language = Machine Code]

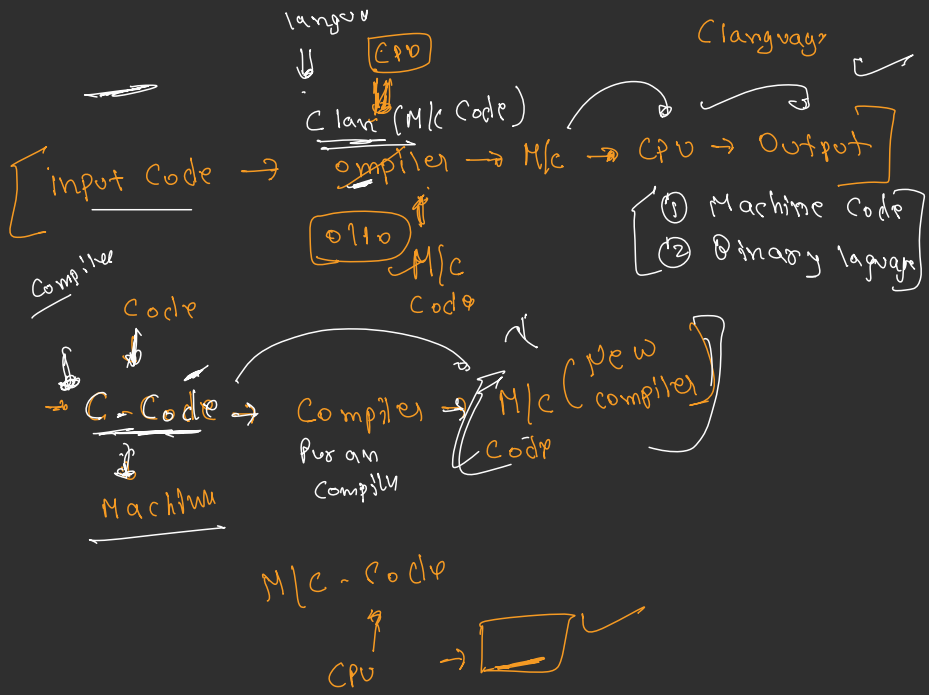


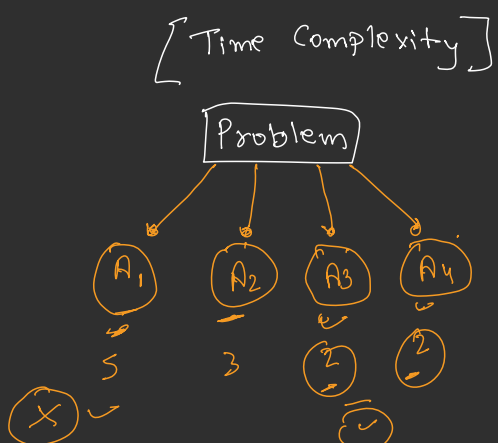

C language
String
Reverse
Compiler
M/c code
M/c code
CPU
CPU
Output

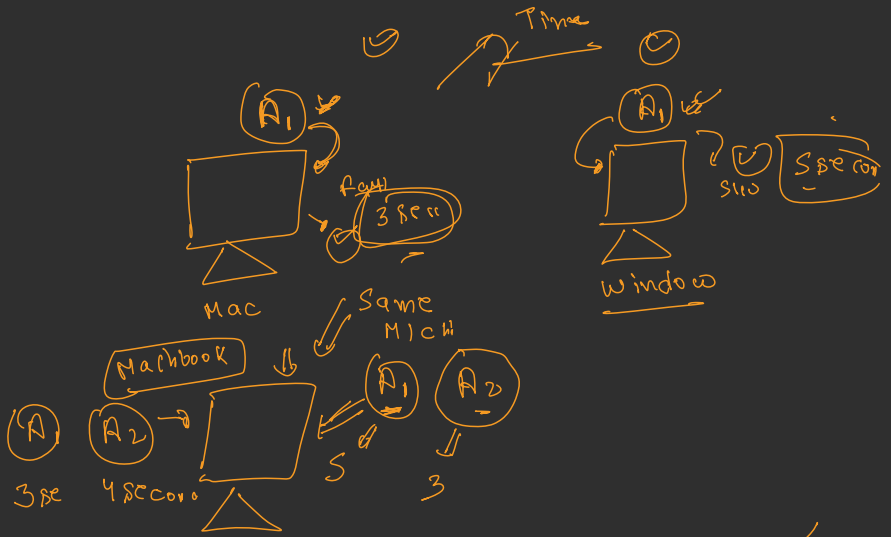

C Code
Special C
String
C Code
Machine code
"Rohit"
Prime
C code
Yes/No
Str
C code
Reverse


C - Code
Special Code
Compiler
M/c Code
M/c
String
M/c Code
M/c Code
New Code
C - Code
CPU
Output

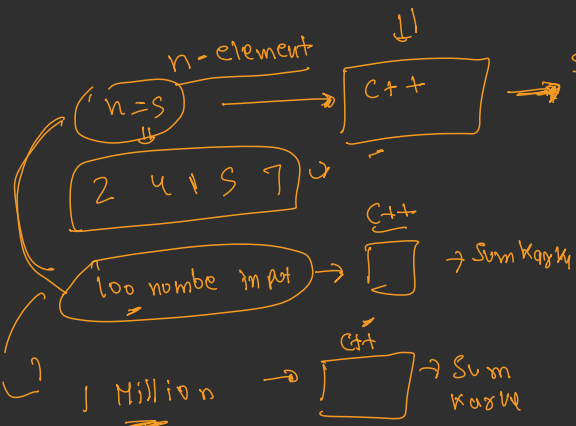

Compiler
Input
C - Code
Binary (Machine) Code
Rohit
"Rohit" → Bino
int main ()
{
}
"Rohit is a good boy"
C language
C - code
Compiler
Machie code
M/C Code
C prime
.M/ch Code
0101
CPU.


Clanguage
EPD
Clang (M/c Code)
Input Code → compiler → M/c → CPU → Output
Machine Code
Binary language
0110
M/c Code
Compiler
Code
C - Code → Compiler → M/c (New compiler)
Pur an Compilly
Machine
M/c - Code
CPU →


Time Complexity
Problem
A1
A2
A3
A4
5
3
2
2
X
✓




```
int arr[n]
int Sum=0
for (i=0; i<n ; i++)
    Sum+ = arr[i];
```

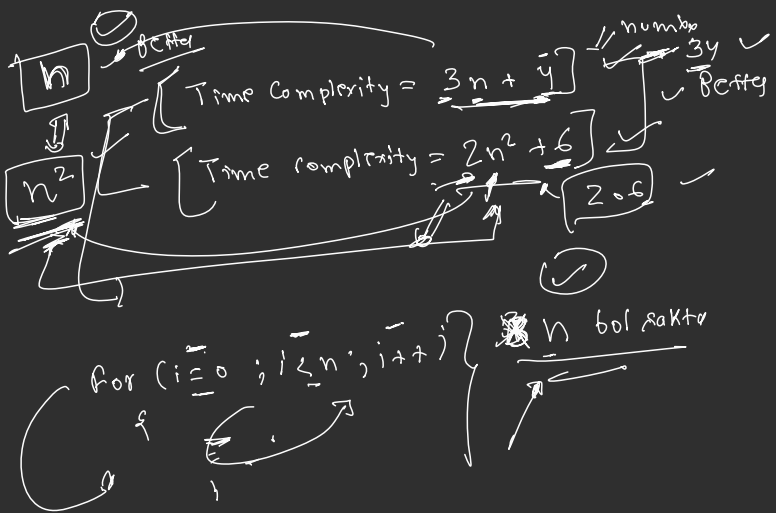



// sum of n - number
int arr[n] = {10,20,30,...};
int sum = 0;
for (int i = 0; i < n; i++)
{ sum += arr[i]
}
cout << sum
n time
n = 4
Operation;
Total operati
operati
14 operat
19 oper
17 oper
Input
Time Complexity
Output
n
n -> 5
5 Secon
n = 100
100 Se
n = 1M
1 Millisecond
Time Complexity
3n + 4
n
4
n
operation
n = 19 operation
n = 22 operation
n 25 operati
Number of operation

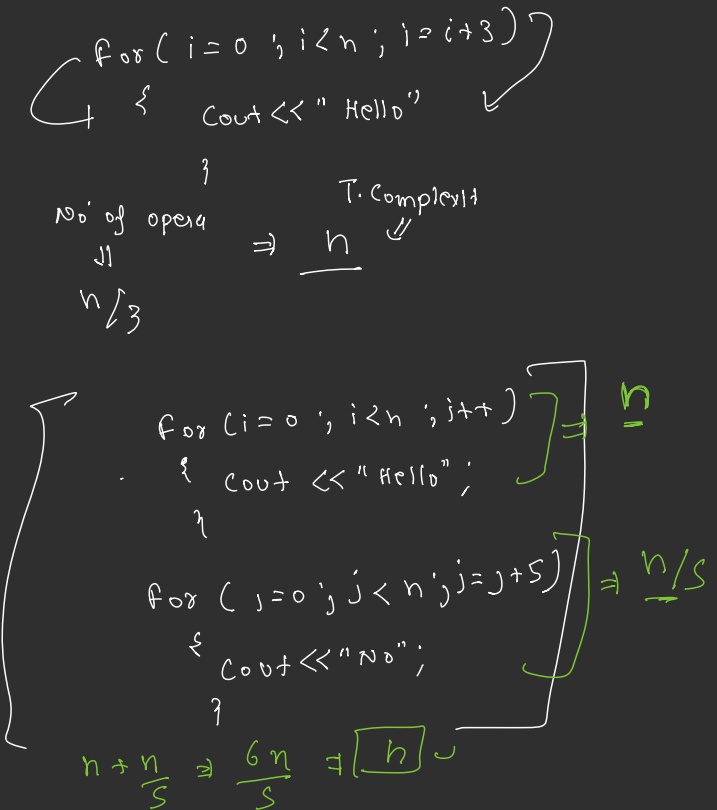
```
for (i=0 ; i<n ; i=i+2)
{
    cout << "Hello"
}
```

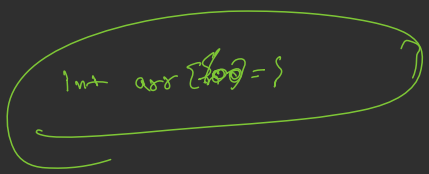
Time Complexity

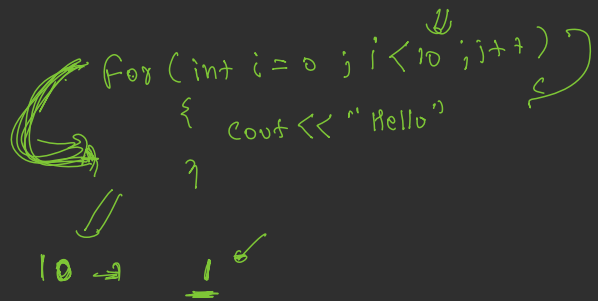
$n/2 \Rightarrow n$

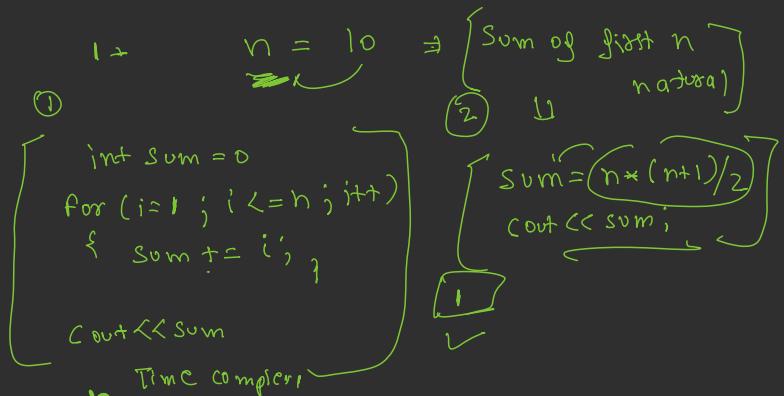


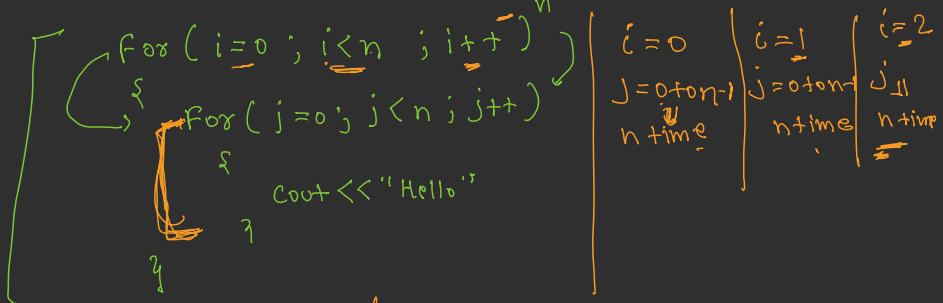

```
for (i=0 ; i<n ; i++)
{
    n bol sakta
}
```

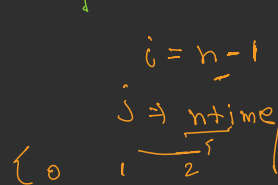

for (i=0 ; i<n ; i=i+3)
{ cout<<" Hello"
}
No of opera
n/3
T. Complexity
n
for (i=0 ; i<n ; i++)
{ cout <<"Hello";
}
for (j=0 ; j<n ; j=j+5)
{ cout<<"No";
}
n/5
n + n/5 ⇒ 6n/5 ≈ n


int arr[100] = {}


for (int i = 0 ; i < 10 ; i++)
{
cout << "Hello"
}
10
1


1 →
n = 10
⇒ [Sum of first n natural]
(1)
(2)
int sum = 0
for (i = 1 ; i <= n ; i++)
{ sum += i; }
cout << sum
n
Time complexity
sum = n*(n+1)/2
cout << sum;
1



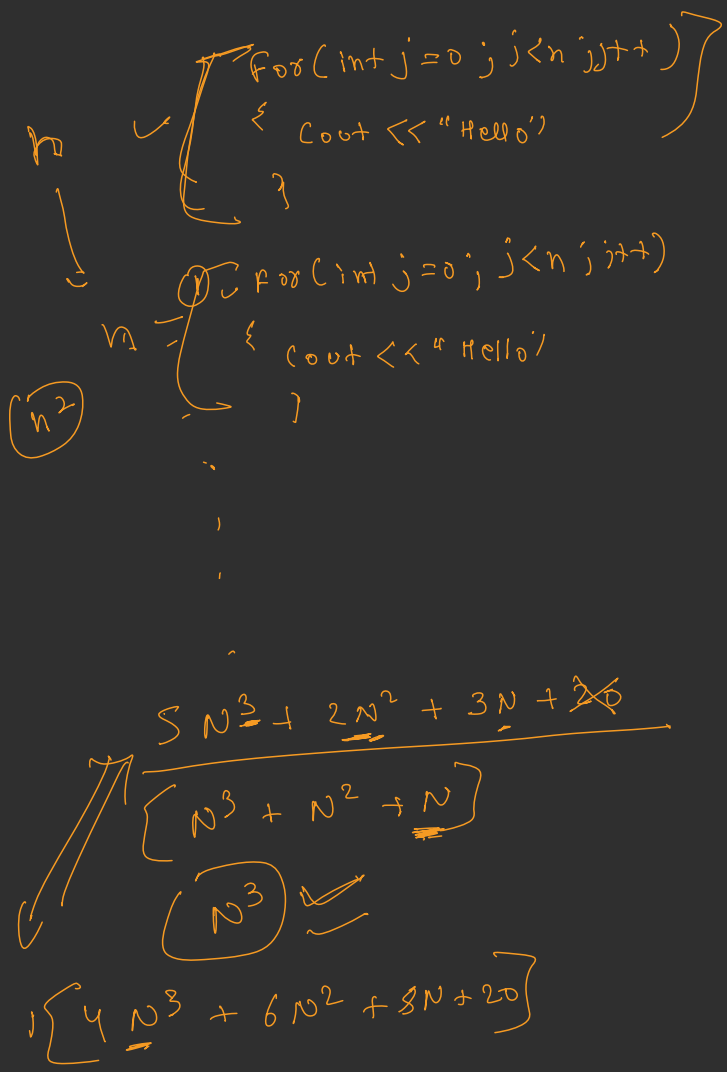


$n + n + n + \cdots\cdots n$

$\Rightarrow n^2$

```
for ( i=0 ; i<3 ; j++ )
{   for ( j=0 ; j<3 ; j++ )
    {   Cout<<"Hello"
    }
}
```

9 time → n^2


for(int j=0 ; j<n ;j++)
{ cout << "Hello"
}
for(int j=0 ; j<n ;j++)
{ cout << "Hello"
}
n
n
n²
5N³ + 2N² + 3N + 20
N³ + N² + N
N³
4N³ + 6N² + 8N + 20