# Day 4 – MongoDB,C#

## Mongo Db :

```
C:\Users\VARUN>mongosh
Current Mongosh Log ID: 64cada2011d73265eadc47fd
Connecting to:
mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+1.
10.3
MongoNetworkError: connect ECONNREFUSED 127.0.0.1:27017

C:\Users\VARUN>mongosh
Current Mongosh Log ID: 64cadb4d823a9a0b606c9c07
Connecting to:
mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+1.
10.3
Using MongoDB:          6.0.8
Using Mongosh:         1.10.3

For mongosh info see: https://docs.mongodb.com/mongodb-shell/

------
   The server generated these startup warnings when booting
   2023-08-03T04:09:59.187+05:30: Access control is not enabled for the database. Read and write access to data
and configuration is unrestricted
------

test> show dbs
admin   48.00 KiB
config  72.00 KiB
local   88.00 KiB
test> db;
test
test> use payoda;
switched to db payoda
payoda> db.createcollection("Employees");
TypeError: db.createcollection is not a function
payoda> db.createCollection("Employees");
{ ok: 1 }
payoda> db.Employees(
... {
... name : "varun"
... age : "21"
Uncaught:
SyntaxError: Unexpected token, expected "," (4:0)

  2 | {
  3 | name : "varun"
> 4 | age : "21"
    | ^
  5 |

payoda> db.Employees( { name : "varun", age : "21"})
TypeError: db.Employees is not a function
payoda> db.Employees.insertOne( { name : "varun", age : "21"})
{
  acknowledged: true,
  insertedId: ObjectId("64cae2a9823a9a0b606c9c08")
}
payoda> db.Employees.insertMany( { name : "varun", age : "21"},{name:"hari"});
MongoInvalidArgumentError: Argument "docs" must be an array of documents
payoda> db.Employees.insertMany( [{ name : "varun", age : "21"},{name:"hari"}]);
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId("64cae35c823a9a0b606c9c09"),
    '1': ObjectId("64cae35c823a9a0b606c9c0a")
  }
}
payoda> db.Employees.insertMany[{ name : "varun", age : "21"},{name:"hari"}];
```

Creating a database Trainees and inserting documents in it, which is gathered together is called collections.

```
 payoda> db.Employees.find( [{ name : "varun", age : "21"},{name:"hari"}]);
 MongoInvalidArgumentError: Query filter must be a plain object or ObjectId
 payoda> db.Employees.find();
 [
   {
     _id: ObjectId("64cae2a9823a9a0b606c9c08"),
     name: 'varun',
     age: '21'
   },
   {
     _id: ObjectId("64cae35c823a9a0b606c9c09"),
     name: 'varun',
     age: '21'
   },
   { _id: ObjectId("64cae35c823a9a0b606c9c0a"), name: 'hari' }
 ]
 payoda> db.Employees.find({name:"hari"});
 [ { _id: ObjectId("64cae35c823a9a0b606c9c0a"), name: 'hari' } ]
 payoda> db.Employees.find({},{name:1});
 [
   { _id: ObjectId("64cae2a9823a9a0b606c9c08"), name: 'varun' },
   { _id: ObjectId("64cae35c823a9a0b606c9c09"), name: 'varun' },
   { _id: ObjectId("64cae35c823a9a0b606c9c0a"), name: 'hari' }
]
```

db.Trainees.find() is to show all the collections.

```
payoda> db.Employees.updateOne({name:"varun"},{$set:{name:"var"}});
 {
   acknowledged: true,
   insertedId: null,
   matchedCount: 1,
   modifiedCount: 1,
   upsertedCount: 0
 }
 payoda> db.Employees.find();
 [
   { _id: ObjectId("64cae2a9823a9a0b606c9c08"), name: 'var', age: '21' },
   {
     _id: ObjectId("64cae35c823a9a0b606c9c09"),
     name: 'varun',
     age: '21'
   },
   { _id: ObjectId("64cae35c823a9a0b606c9c0a"), name: 'hari' }
 ]
 payoda> db.Employees.updateMany({name:"varun"},{$set:{name:"var"}});
 {
   acknowledged: true,
   insertedId: null,
   matchedCount: 1,
   modifiedCount: 1,
   upsertedCount: 0
 }
 payoda> db.Employees.find();
 [
   { _id: ObjectId("64cae2a9823a9a0b606c9c08"), name: 'var', age: '21' },
   { _id: ObjectId("64cae35c823a9a0b606c9c09"), name: 'var', age: '21' },
   { _id: ObjectId("64cae35c823a9a0b606c9c0a"), name: 'hari' }
 ]
 payoda> db.Employees.updateMany({name:"varun"},{$set:{nick:"var"}});
 {
   acknowledged: true,
   insertedId: null,
   matchedCount: 0,
   modifiedCount: 0,
   upsertedCount: 0
 }
 payoda> db.Employees.find();
 [
   { _id: ObjectId("64cae2a9823a9a0b606c9c08"), name: 'var', age: '21' },
   { _id: ObjectId("64cae35c823a9a0b606c9c09"), name: 'var', age: '21' },
   { _id: ObjectId("64cae35c823a9a0b606c9c0a"), name: 'hari' }
 ]
 payoda> db.Employees.updateMany({name:"varun"},{$set:{nick:"var"}},{upsert:true});
 {
   acknowledged: true,
   insertedId: ObjectId("64caef6c802c49f40ce248ab"),
   matchedCount: 0,
   modifiedCount: 0,
   upsertedCount: 1
 }
```

## Update Query in Mongo

## C# Practice

```
payoda> db.Employees.updateMany({name:"var"},{$set:{nick:"var"}},{upsert:true});
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 2,
  modifiedCount: 2,
  upsertedCount: 0
}
payoda> db.Employees.find();
[
  {
    _id: ObjectId("64cae2a9823a9a0b606c9c08"),
    name: 'var',
    age: '21',
    nick: 'var'
  },
  {
    _id: ObjectId("64cae35c823a9a0b606c9c09"),
    name: 'var',
    age: '21',
    nick: 'var'
  },
  { _id: ObjectId("64cae35c823a9a0b606c9c0a"), name: 'hari' },
  {
    _id: ObjectId("64caef6c802c49f40ce248ab"),
    name: 'varun',
    nick: 'var'
  }
]
payoda> db.Employees.updateMany({name:"var"},{$set:{nick:"var"}},{upsert:true});
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 2,
  modifiedCount: 0,
  upsertedCount: 0
}
```

## Setting condition

```
payoda> db.Employees.find({age:{$gt:5}},{name:1,age:0});
MongoServerError: Cannot do exclusion on field age in inclusion projection
payoda> db.Employees.find({age:{$gt:5}},{name:1,_id:0});
[ { name: 'varun' }, { name: 'varun' }, { name: 'varun' } ]
payoda> db.users.insertOne({
...   name: "John Doe",
...   age: 30,
...   email: "john.doe@example.com",
...   isActive: true
... });
{
  acknowledged: true,
  insertedId: ObjectId("64caf544823a9a0b606c9c0f")
}
payoda> db.users.insertOne({ name: "Jane Doe", age: 30, email: "jane.doe@example.com", isActive:
false})
{
  acknowledged: true,
  insertedId: ObjectId("64caf5a8823a9a0b606c9c10")
}
payoda> db.Employees.find({name:"John Doe",age:{$gt:5}},{isActive:false});
```

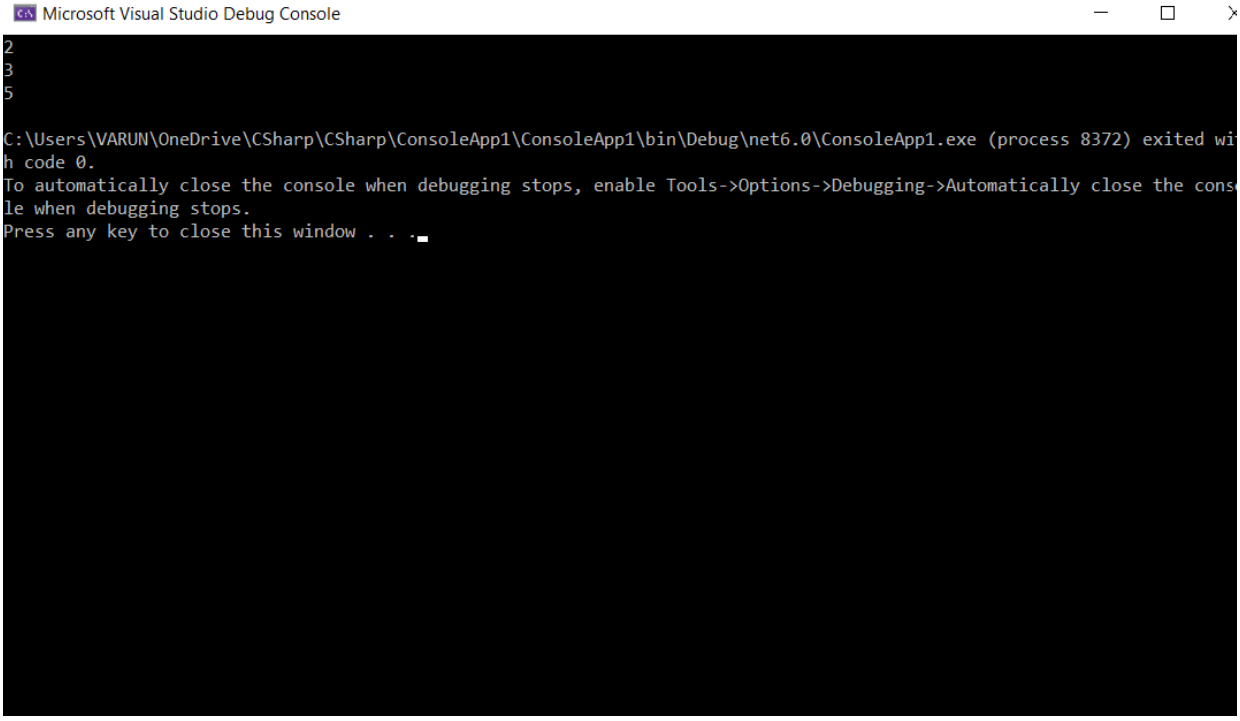
# C# Practice

>payoda

## 1) Addition of Two numbers

```
int num1, num2;
    int res;
num1 = Convert.ToInt32(Console.ReadLine());
num2 = Convert.ToInt32(Console.ReadLine());
res=num1+num2;
Console.WriteLine(res);
```

## Output

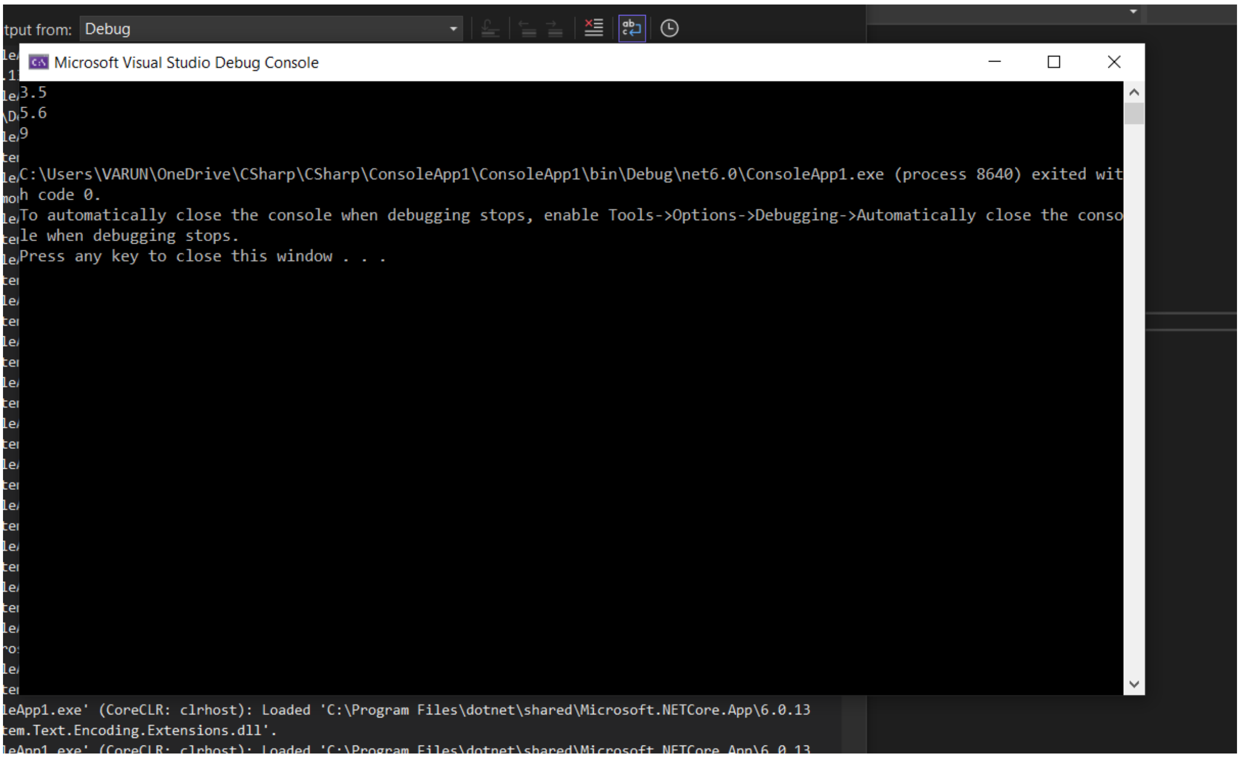


```
2
3
5

C:\Users\VARUN\OneDrive\CSharp\CSharp\ConsoleApp1\ConsoleApp1\bin\Debug\net6.0\ConsoleApp1.exe (process 8372) exited wi
h code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the cons
le when debugging stops.
Press any key to close this window . . .
```

## 2) Addition of 2 double numbers and typecast it to int

```
double num1, num2;
    int res;
num1 = Convert.ToDouble(Console.ReadLine());
num2 = Convert.ToDouble(Console.ReadLine());
res=(int)(num1+num2);
Console.WriteLine(res);
```

## Output



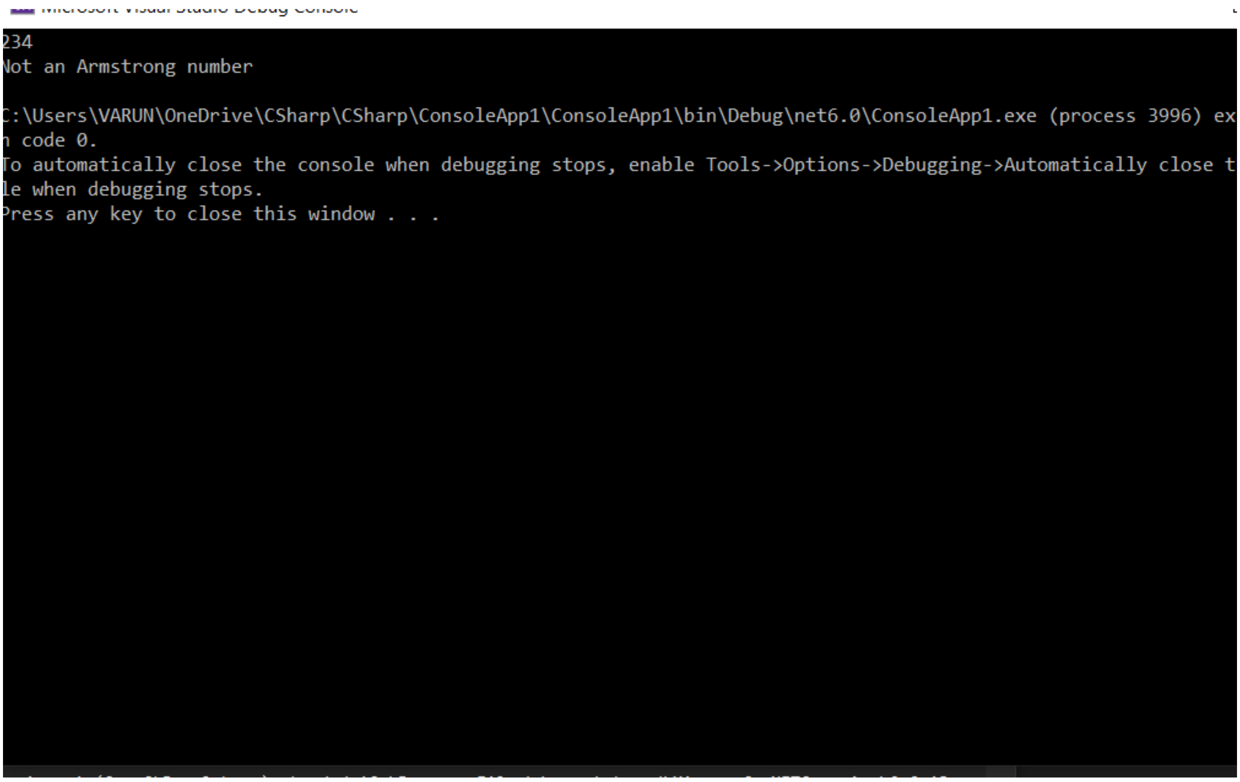
```
3.5
5.6
9

C:\Users\VARUN\OneDrive\CSharp\CSharp\ConsoleApp1\ConsoleApp1\bin\Debug\net6.0\ConsoleApp1.exe (process 8640) exited wit
h code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the conso
le when debugging stops.
Press any key to close this window . . .
```

```
leApp1.exe' (CoreCLR: clrhost): Loaded 'C:\Program Files\dotnet\shared\Microsoft.NETCore.App\6.0.13
tem.Text.Encoding.Extensions.dll'.
leApp1.exe' (CoreCLR: clrhost): Loaded 'C:\Program Files\dotnet\shared\Microsoft.NETCore.App\6.0.13
```

## Armstrong Number

```
int num, sum = 0;
num = Convert.ToInt32(Console.ReadLine());
int temp = num;
    while (num > 0)
{
    int rem = num % 10;
        sum += rem * rem * rem;
        num /= 10;
}
    if (temp == sum)
{
   Console.WriteLine("Armstrong number");
}
else
        Console.WriteLine("Not an Armstrong number");
```

## Output

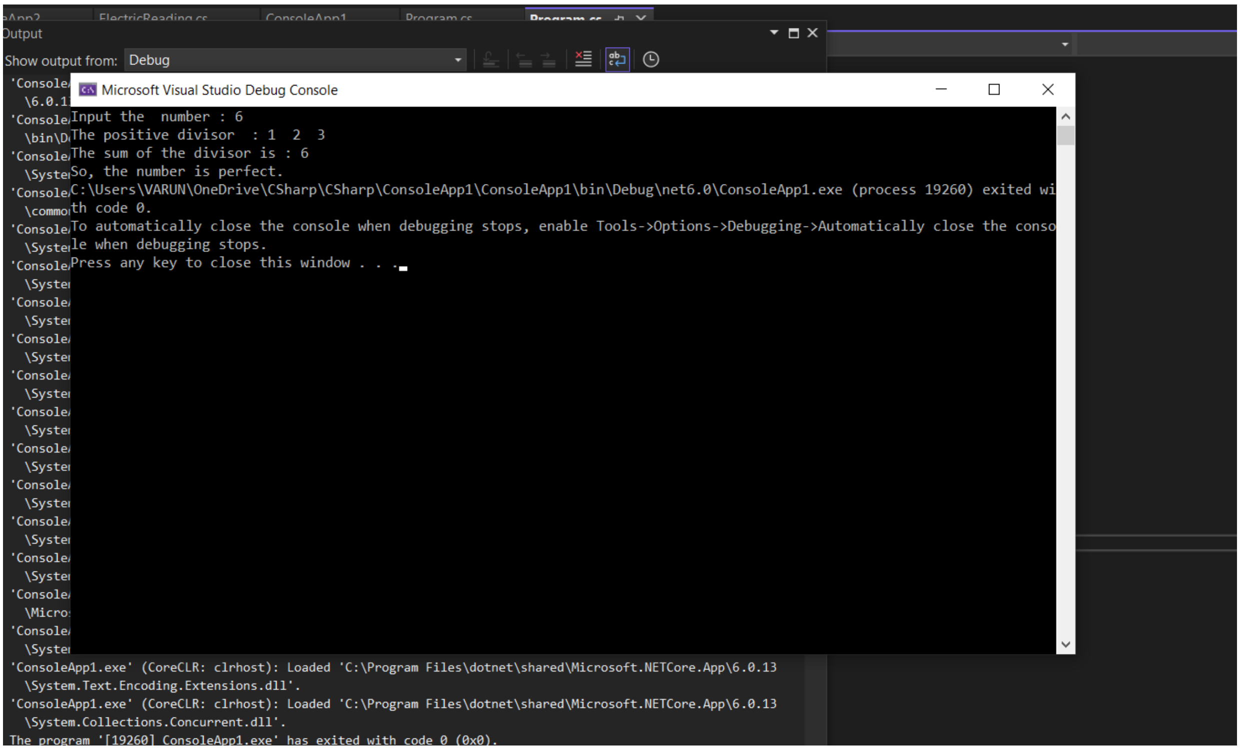


```
234
Not an Armstrong number

C:\Users\VARUN\OneDrive\CSharp\CSharp\ConsoleApp1\ConsoleApp1\bin\Debug\net6.0\ConsoleApp1.exe (process 3996) ex
n code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close t
le when debugging stops.
Press any key to close this window . . .
```

## 3)Perfect Number

```
int n, i, sum;


Console.Write("Input the  number : ");
n = Convert.ToInt32(Console.ReadLine());
sum = 0;
Console.Write("The positive divisor  : ");
for (i = 1; i < n; i++)
{
    if (n % i == 0)
    {
        sum = sum + i;
        Console.Write("{0}  ", i);
    }
}
Console.Write("\nThe sum of the divisor is : {0}", sum);
if (sum == n)
    Console.Write("\nSo, the number is perfect.");
else
    Console.Write("\nSo, the number is not perfect.");
```

## Output



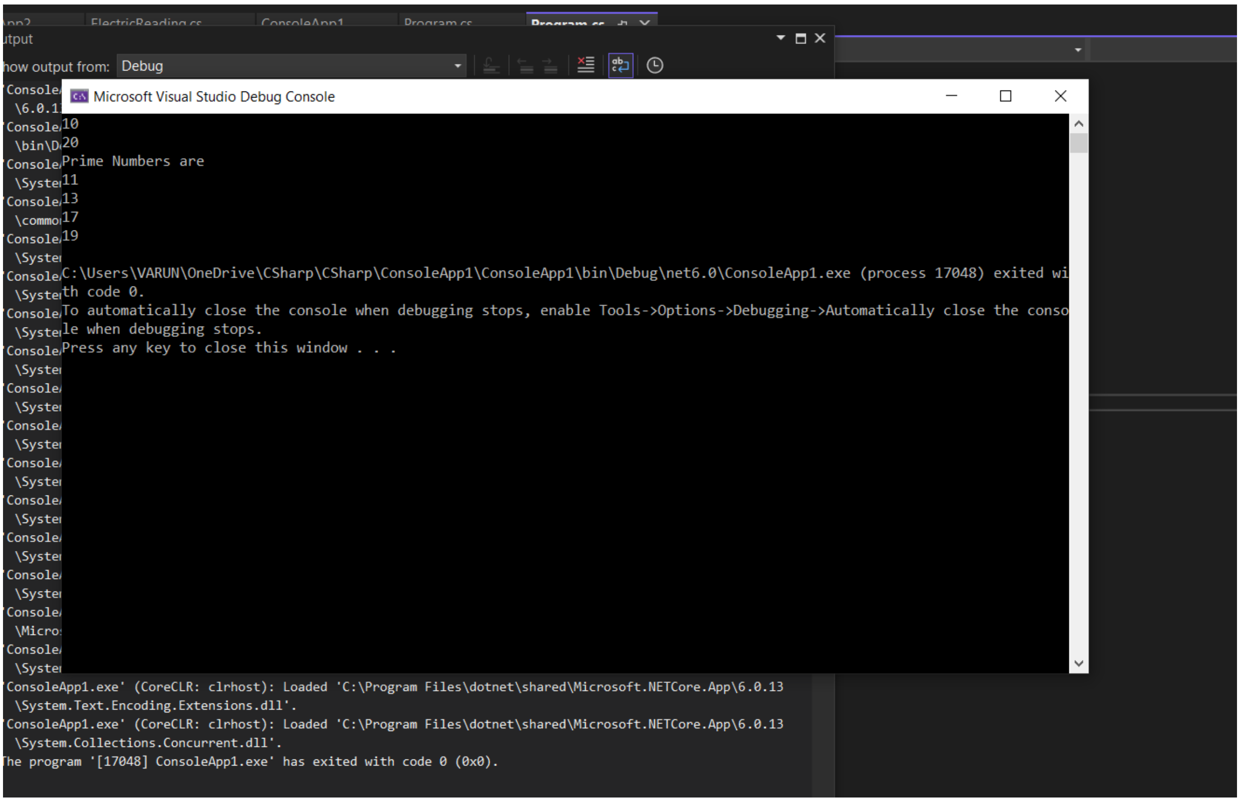
```
Input the  number : 6
The positive divisor  : 1  2  3
The sum of the divisor is : 6
So, the number is perfect.
C:\Users\VARUN\OneDrive\CSharp\CSharp\ConsoleApp1\ConsoleApp1\bin\Debug\net6.0\ConsoleApp1.exe (process 19260) exited wi
th code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the conso
le when debugging stops.
Press any key to close this window . . .
```

```
'ConsoleApp1.exe' (CoreCLR: clrhost): Loaded 'C:\Program Files\dotnet\shared\Microsoft.NETCore.App\6.0.13
  \System.Text.Encoding.Extensions.dll'.
'ConsoleApp1.exe' (CoreCLR: clrhost): Loaded 'C:\Program Files\dotnet\shared\Microsoft.NETCore.App\6.0.13
  \System.Collections.Concurrent.dll'.
The program '[19260] ConsoleApp1.exe' has exited with code 0 (0x0).
```

## 4)Prime Number Between given Range

```
int start_num = 0, end_num = 0,count = 0;
start_num=Convert.ToInt32(Console.ReadLine());
end_num=Convert.ToInt32(Console.ReadLine());
for (int i = start_num; i <= end_num; i++)
{
    for(int j = 1; j <= start_num/2 ; j++)
    {
        if (i % j == 0)
        {
            count++;
        }
    }
    if (count == 1)
    {
        Console.WriteLine(i);
    }
    count = 0;
}
```

# Output



```
10
20
Prime Numbers are
11
13
17
19

C:\Users\VARUN\OneDrive\CSharp\CSharp\ConsoleApp1\ConsoleApp1\bin\Debug\net6.0\ConsoleApp1.exe (process 17048) exited wi
th code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the conso
le when debugging stops.
Press any key to close this window . . .
```

```
'ConsoleApp1.exe' (CoreCLR: clrhost): Loaded 'C:\Program Files\dotnet\shared\Microsoft.NETCore.App\6.0.13
 \System.Text.Encoding.Extensions.dll'.
'ConsoleApp1.exe' (CoreCLR: clrhost): Loaded 'C:\Program Files\dotnet\shared\Microsoft.NETCore.App\6.0.13
 \System.Collections.Concurrent.dll'.
he program '[17048] ConsoleApp1.exe' has exited with code 0 (0x0).
```