

The screenshot shows the Visual Studio Code interface with the 'TERMINAL' tab selected. The terminal output displays the following text:

```
Name : Aadarsh Jain      Roll No. : 17
Batch : A2      Date : 03-02-2023
AIM : Implement a program to validate if it is IPv4 address or Not.

Case 1. Valid Range checking for IP Address

Enter IP Address : 192.368.297.17
Cell 2 is out of Range
Cell 3 is out of Range

INVALID IP Address :(

PS E:\6th Sem\TCP_IP>
```

Invalid Range

The above Snapshot of Output is in Invalid Range because Cell 2 (i.e 368) and Cell 3(i.e 297) are out of Range i.e. they both are greater then 255 (that is the maximum range).



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Batch : A2      Date : 03-02-2023
AIM : Implement a program to validate if it is IPv4 address or Not.

Case 1. Valid Range checking for IP Address

Enter IP Address : 192.168.10.28

VALID IP Address :)

PS E:\6th Sem\TCP_IP>
```

Valid Range

The above Snapshot of Output is in valid Range because all the 4 cells are having value within the range i.e. all the cell values lies between 0 to 255

File Edit Selection View Go Run Terminal HelpIP_Validation.cpp - Visual Studio Code

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

Name : Aadarsh JainRoll No. : 17Batch : A2Date : 03-02-2023AIM : Implement a program to validate if it is IPv4 address or Not.

Case 2) No leading zeros should be accepted

Enter IP Address : 192.068.01.19Leading zero's exists at Cell-2Leading zero's exists at Cell-3

INVALID IP Address :(

PS E:\6th Sem\TCP_IP>

Leading Zero's

In the above IP Address there is leading zeros in cell 2 (058) and cell 3 (01) that is not a valid IP Address in Networking .

File Edit Selection View Go Run Terminal HelpIP_Validation.cpp - Visual Studio Code

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

Name : Aadarsh JainRoll No. : 17Batch : A2Date : 03-02-2023AIM : Implement a program to validate if it is IPv4 address or Not.

Case 2) No leading zeros should be accepted

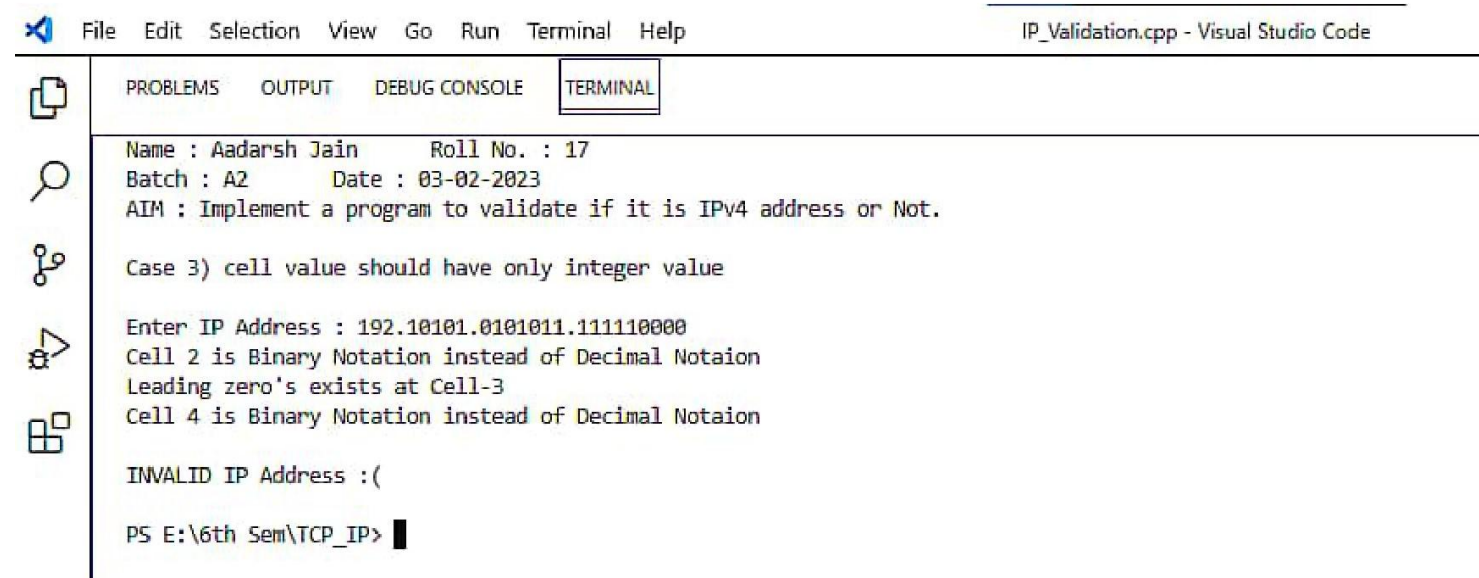
Enter IP Address : 192.132.89.18

VALID IP Address :)

PS E:\6th Sem\TCP_IP>

non_ Leading Zero's

The above IP Address doesn't contain any Leading zero's in any of the four cells and hence it is a valid IP Address .



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```
Name : Aadarsh Jain      Roll No. : 17
Batch : A2              Date : 03-02-2023
AIM : Implement a program to validate if it is IPv4 address or Not.

Case 3) cell value should have only integer value

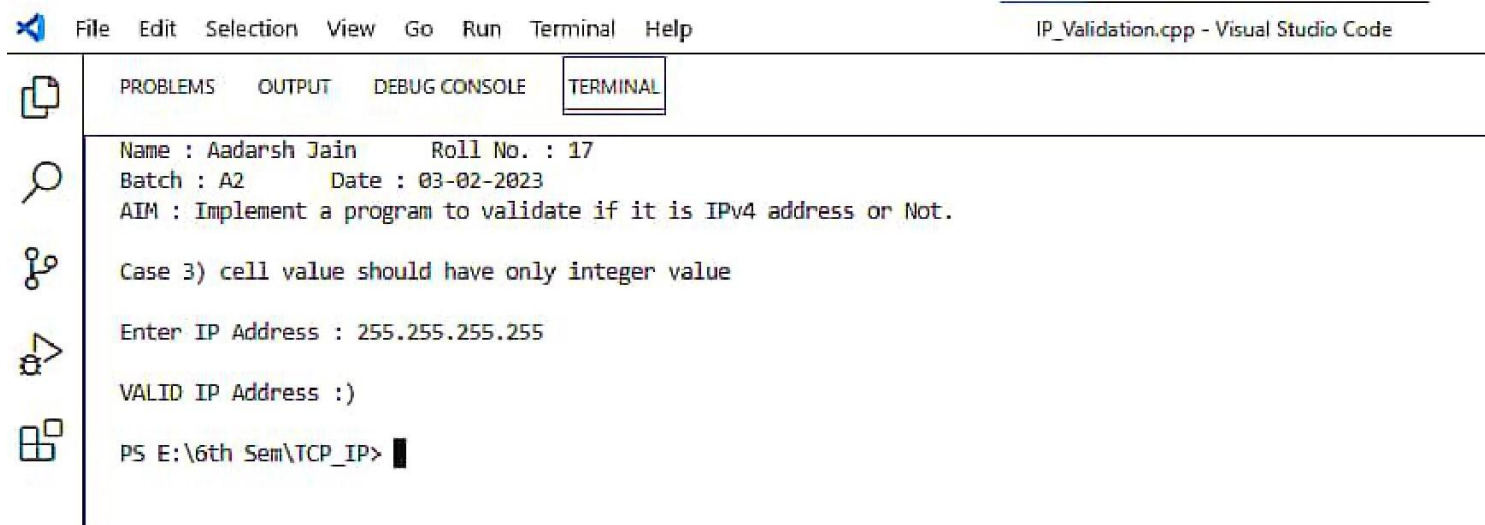
Enter IP Address : 192.10101.0101011.111110000
Cell 2 is Binary Notation instead of Decimal Notation
Leading zero's exists at Cell-3
Cell 4 is Binary Notation instead of Decimal Notation

INVALID IP Address :(

PS E:\6th Sem\TCP_IP> |
```

Dotted Decimal Values

IP Address must only contains DDN (Dotted Decimal Notation) it does not contains Binary Notation in the above Output cell 2,cell 3,cell 4 contains Binary Notation Values but cell 1 contains Dotted Decimal Notation .



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```
Name : Aadarsh Jain      Roll No. : 17
Batch : A2              Date : 03-02-2023
AIM : Implement a program to validate if it is IPv4 address or Not.

Case 3) cell value should have only integer value

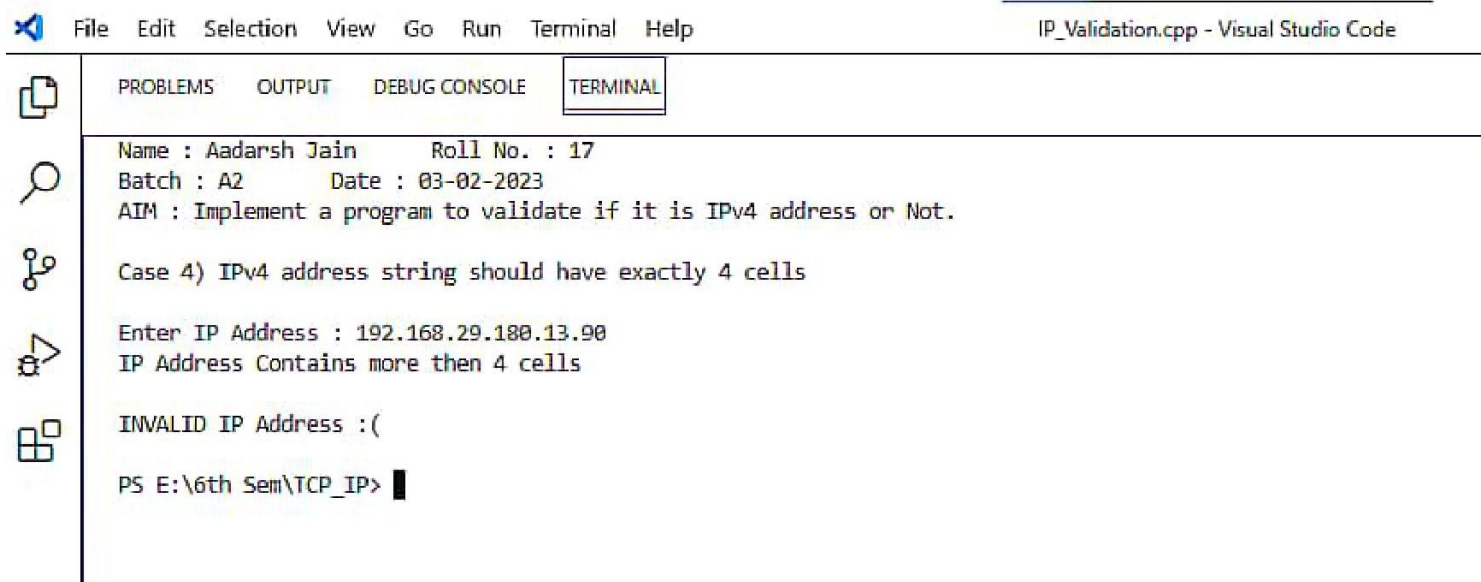
Enter IP Address : 255.255.255.255

VALID IP Address :)

PS E:\6th Sem\TCP_IP> |
```

Dotted Decimal Values

IP Address must only contains DDN (Dotted Decimal Notation) it does not contains Binary Notation in the above Output all the four cell contains Dotted Decimal Notation.



The screenshot shows the Visual Studio Code interface with the 'TERMINAL' tab selected. The terminal output displays the following text:

```
Name : Aadarsh Jain      Roll No. : 17
Batch : A2      Date : 03-02-2023
AIM : Implement a program to validate if it is IPv4 address or Not.

Case 4) IPv4 address string should have exactly 4 cells

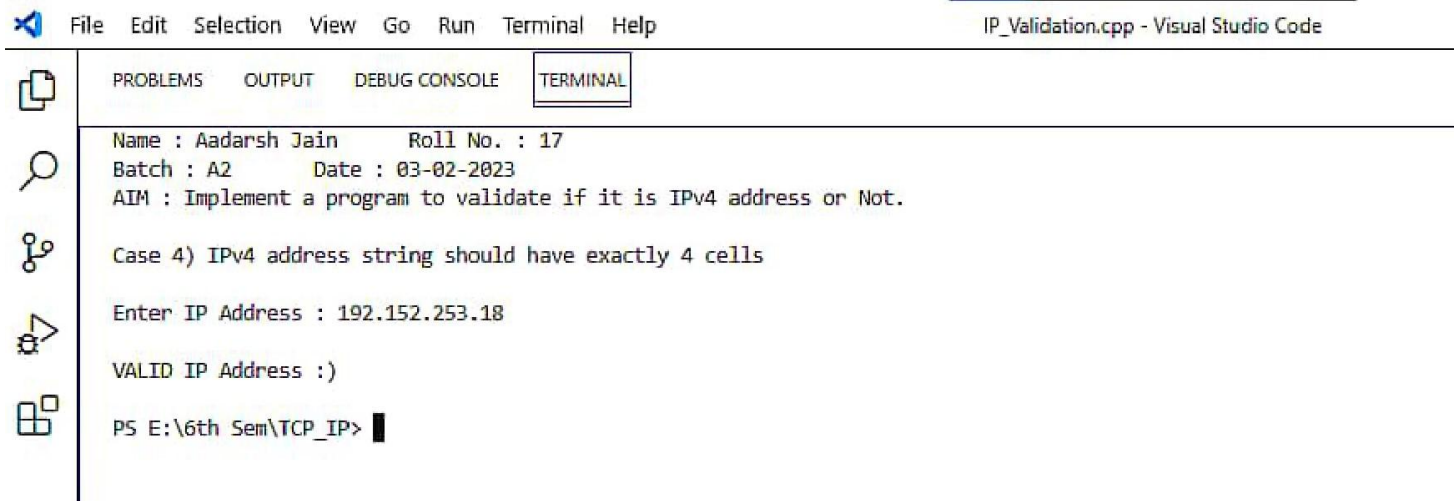
Enter IP Address : 192.168.29.180.13.90
IP Address Contains more than 4 cells

INVALID IP Address :(

PS E:\6th Sem\TCP_IP> |
```

NO. of Cells must be 4

In the above Example we are having 5 cells that is we are having 5 DDN in our output but in standart IP Addresses it is having 4 cells in IPv4 .



The screenshot shows the Visual Studio Code interface with the 'TERMINAL' tab selected. The terminal output displays the following text:

```
Name : Aadarsh Jain      Roll No. : 17
Batch : A2      Date : 03-02-2023
AIM : Implement a program to validate if it is IPv4 address or Not.

Case 4) IPv4 address string should have exactly 4 cells

Enter IP Address : 192.152.253.18

VALID IP Address :)

PS E:\6th Sem\TCP_IP> |
```

NO. of Cells must be 4

In the above Example we are having 4 cells that is we are having 4 DDN in our output as in standart IP Addresses it is having 4 cells in IPv4 .