C goto statement

The goto statement is known as jump statement in C. As the name suggests, goto is used to transfer the program control to a predefined label. The goto statment can be used to repeat some part of the code for a particular condition. It can also be used to break the multiple loops which can't be done by using a single break statement. However, using goto is avoided these days since it makes the program less readable and complecated.

Syntax:

1. label:
2. //some part of the code;
3. **goto** label;

goto example

Let's see a simple example to use goto statement in C language.

1. #include <stdio.h>
2. **int** main()
3. {
4. **int** num,i=1;
5. printf("Enter the number whose table you want to print?");
6. scanf("%d",&num);
7. table:
8. printf("%d x %d = %d\n",num,i,num\*i);
9. i++;
10. **if**(i<=10)
11. **goto** table;
12. }

**Output:**

Enter the number whose table you want to print?10

10 x 1 = 10

10 x 2 = 20

10 x 3 = 30

10 x 4 = 40

10 x 5 = 50

10 x 6 = 60

10 x 7 = 70

10 x 8 = 80

10 x 9 = 90

10 x 10 = 100

When should we use goto?

The only condition in which using goto is preferable is when we need to break the multiple loops using a single statement at the same time. Consider the following example.

1. #include <stdio.h>
2. **int** main()
3. {
4. **int** i, j, k;
5. **for**(i=0;i<10;i++)
6. {
7. **for**(j=0;j<5;j++)
8. {
9. **for**(k=0;k<3;k++)
10. {
11. printf("%d %d %d\n",i,j,k);
12. **if**(j == 3)
13. {
14. **goto** out;
15. }
16. }
17. }
18. }
19. out:
20. printf("came out of the loop");
21. }

0 0 0

0 0 1

0 0 2

0 1 0

0 1 1

0 1 2

0 2 0

0 2 1

0 2 2

0 3 0

came out of the loop