

## C-29 $\Rightarrow$ Nested If in C

\* Within if we can use another if block condition; we can also skip else

syntax:

if (Condition 1)

{

if (Condition 2)

{

if (Condition n)

{

Inner if block statements;

}

else

{

Inner if block statements;

}

}

}

else

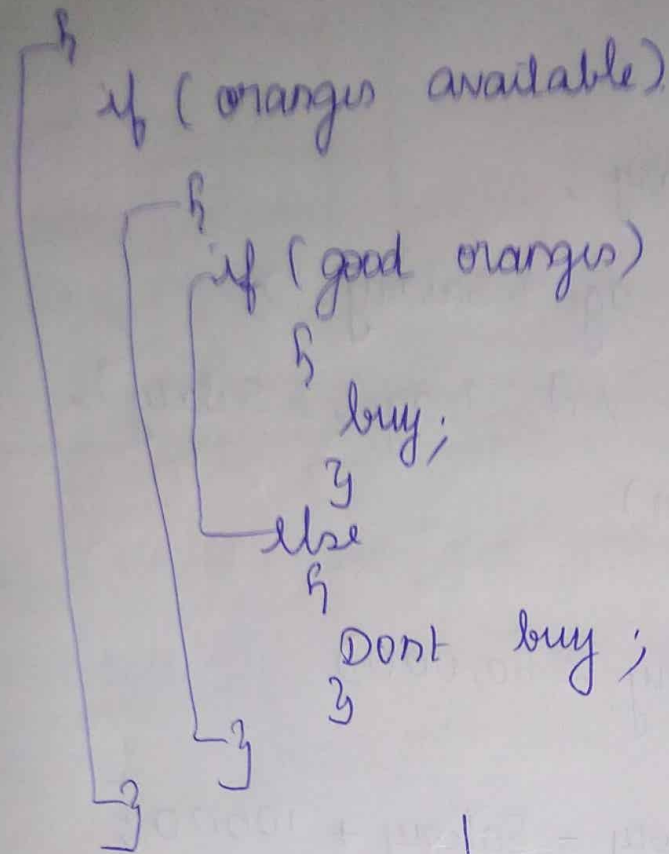
{

outer else block statements;

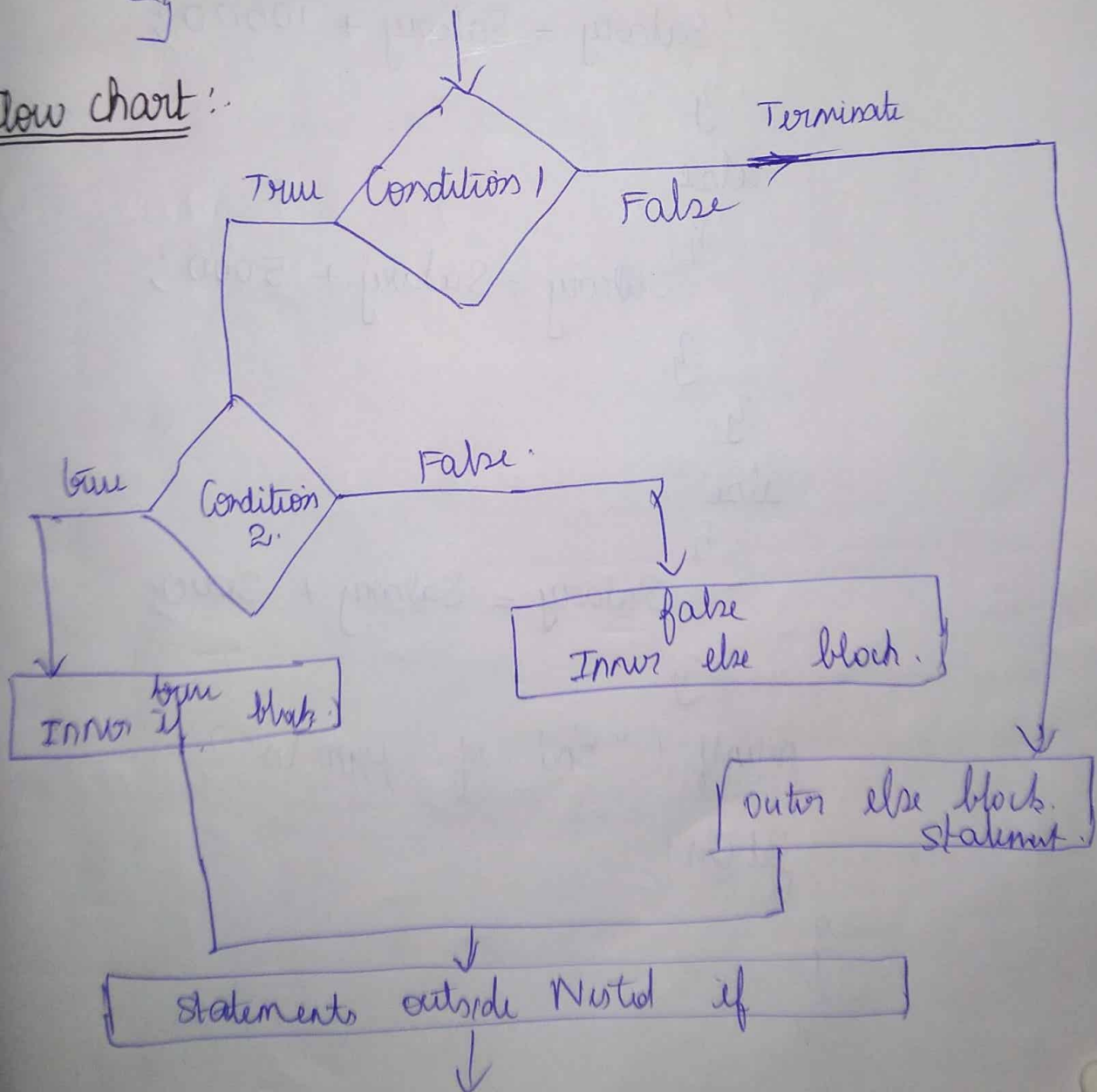
}

Statements outside Nested if;

if (go to supermarket)



Flow chart :-



## Program 1

```
void main()
```

```
{
```

```
    int age, salary;
```

```
    printf("Enter age & salary:");
```

```
    scanf("%d %d", &age, &salary);
```

```
    if (age > 50)
```

```
    {
```

```
        if (salary < 60,000)
```

```
        {
```

```
            salary = salary + 10000;
```

```
        }
```

```
    else
```

```
    {
```

```
        salary = salary + 5000;
```

```
    }
```

```
    }
```

```
    else
```

```
    {
```

```
        salary = salary + 3000;
```

```
    }
```

```
    printf("End of pgm\n");
```

```
    getch();
```

```
}
```

Q/P

Enter age & salary:  
53  
45,000  
 Salary = 55,000  
 End of pgm

Q/P

Enter age & salary:  
53  
75,000  
 Salary = 80,000  
 End of pgm

Q/P

Enter age & salary:  
45  
70,000  
 Salary = 73,000  
 End of pgm

Note:

\* Nested if can be avoided by using logical AND in single if block statement condition.

Pgm: 2

if (age > 50 && salary < 60000)

{

Salary = salary + 10000;

}

else

{

Salary = salary + 5000;

}

else

{

Salary = salary + 3000;

}

printf("End of pgm\n");

getch();

}



Pgm 3 (Maximum among 3 numbers using nested if)

```
void main()
```

```
{
```

```
    int a, b, c;
```

```
    printf("Enter a=\n b=\n c=\n");
```

```
    scanf("%d %d %d", &a, &b, &c);
```

```
    if (a < b)
```

```
    {
```

```
        if (b < c)
```

```
        {
```

```
            printf("c = %d is largest number", c);
```

```
        }
```

```
    } else
```

```
    {
```

```
        printf("b = %d is largest number", b);
```

```
    }
```

```
    }
```

```
    else
```

```
    {
```


```
        printf("a = %d is largest number", a);
```

```
    }
```

```
}
```

## CODE 1:

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  /* 1 - nested if */
4  int main()
5  {
6      int age,salary;
7      printf("Enter age and salary: \n");
8      scanf("%d%d",&age,&salary);
9      if(age>50)
10     {
11         if(salary<60000)
12         {
13             salary=salary+10000;
14             printf("Salary:%d\n",salary);
15         }
16         else
17         {
18             salary=salary+5000;
19             printf("Salary:%d\n",salary);
20         }
21     }
22     else
23     {
24         salary=salary+3000;
25         printf("Salary:%d\n",salary);
26     }
27     printf("End of the program,Outside of nested if..\n");
28     getch();
29 }
30
```

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```
Enter age and salary:
53
45000
Salary:55000
End of the program,Outside of nested if..
_
```

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Enter age and salary:

57

75000

Salary:80000

End of the program,Outside of nested if..

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Enter age and salary:

45


70000

Salary:73000


End of the program,Outside of nested if..

## CODE 2:

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  /* 2 - nested if, To find maximum among 3 random numbers */
4  int main()
5  {
6      int a,b,c;
7      printf("Enter Values of a,b and c:\n");
8      scanf("%d%d%d",&a,&b,&c);
9      if(a<b)
10     {
11         if(b<c)
12         {
13             printf("c=%d is the largest number",c);
14         }
15         else
16         {
17             printf("b=%d is the largest number",b);
18         }
19     }
20     else
21     {
22         printf("a=%d is the largest number",a);
23     }
24 }
```

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```
Enter Values of a,b and c:
60
40
20
a=60 is the largest number
Process returned 0 (0x0)   execution time : 8.179 s
Press any key to continue.
```

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```
Enter Values of a,b and c:
50
70
30
b=70 is the largest number
Process returned 0 (0x0)   execution time : 9.448 s
Press any key to continue.
```

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```
Enter Values of a,b and c:
20
40
80
c=80 is the largest number
Process returned 0 (0x0)   execution time : 8.017 s
Press any key to continue.
```