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13 Conditional Statements :

1) Why we need conditional statements ?

2) Where it is used in the industry / coding

-> Logical bugs -> shopping cart

-> Error handling -> Crowd Strike.

3) Types of patterns of conditional statements

-> if
-> if else
-> if else if else
-> Nested if else
-> conditional
-> switch

4) How to write clear & clean conditional statements

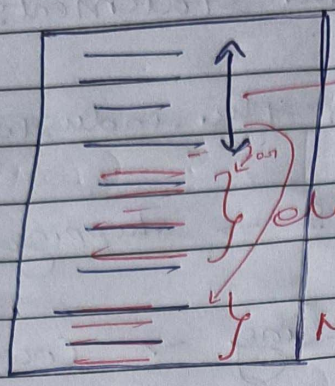
5) Sample examples.

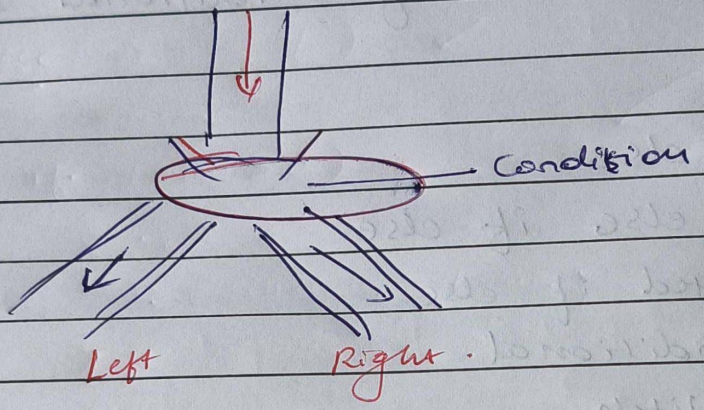
-> Is no. positive
-> Is no. +ve / -ve
-> Classify std % take into distinction, first class 2nd class etc
-> Convert day month in digit to word
ex: if i/p is 5 then return May

-> Greater or smaller no. using conditional operator

-> A prgm convert 2 to Binary

If Person buy ₹500 above give 10% disc or if not 0%.

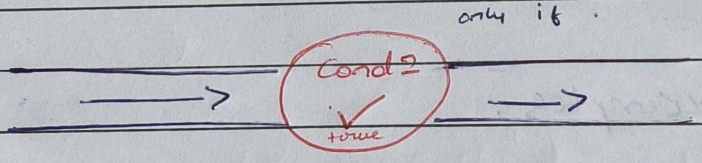




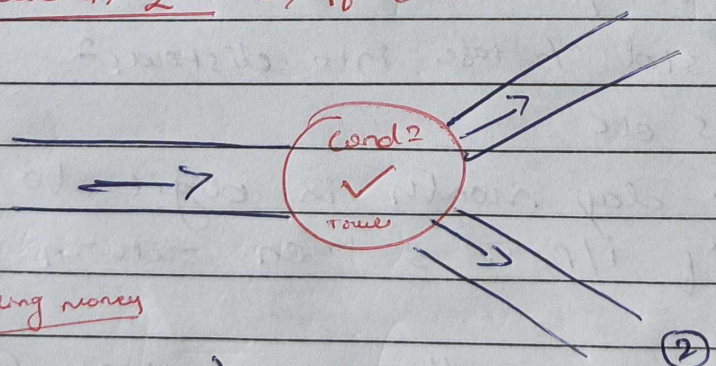
pattern 1 -> if ()

Ex 18 years voting.

```
if (age > 18)
    "yes can vote"
```



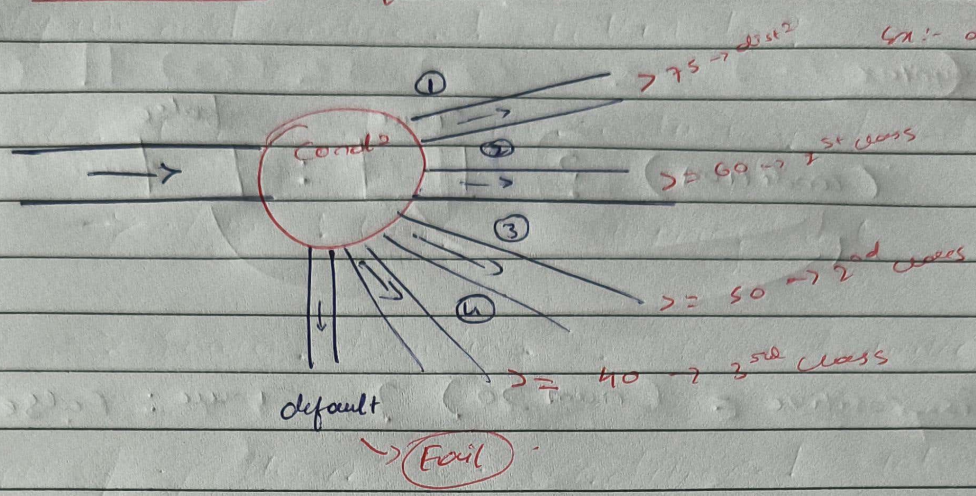
Pattern 2 -> if else



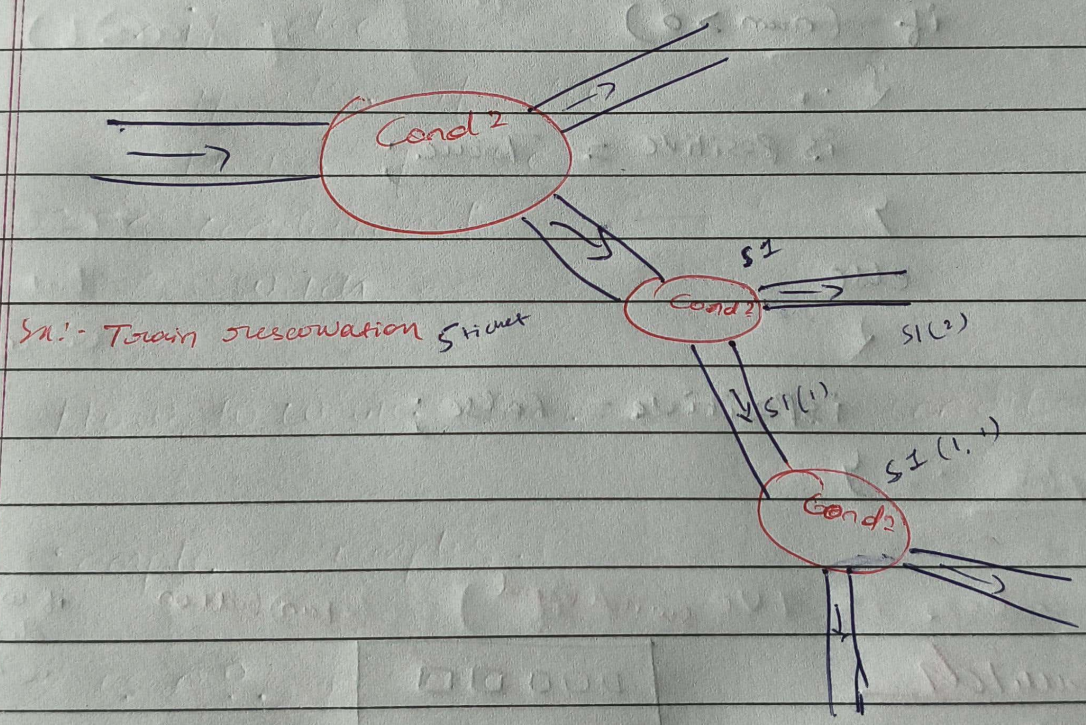
Ex:- Sending money

```
if (rupees > 0) && < 1 lack)
    " Allow the transfer "
else:
    "not allow/convert to text "
```

pattern 3 → if else if - - - else

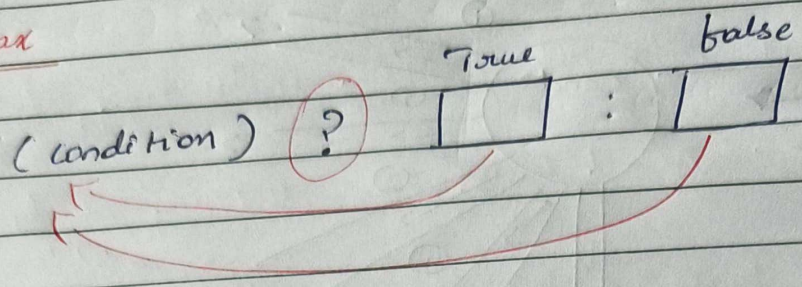


pattern 4 → Nested if else :



Conditional Statements :

Syntax

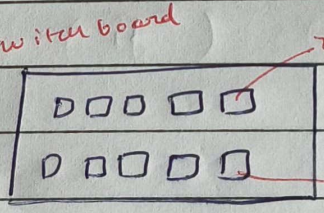



```
is_positive = (num > 0) ? True : False;
```

for if else

```
if (num > 0)
  {
    is positive = True;
  }
else
  {
    isPositive = false;
  }
```

Switch



if we switch on direct fan button is needs

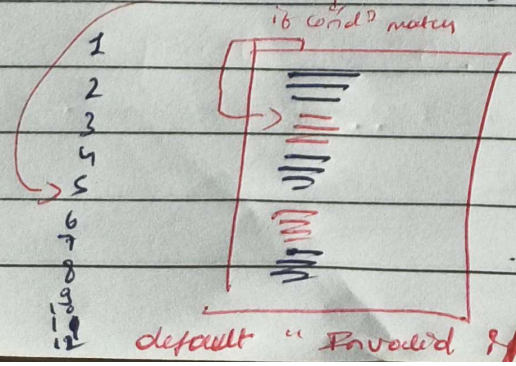
if switch on light if need

Ex:- month check if 1 -> jan -

but not start all bottons only directly start the needed switch

∴ In this way switch works

```
Switch (condition)
```



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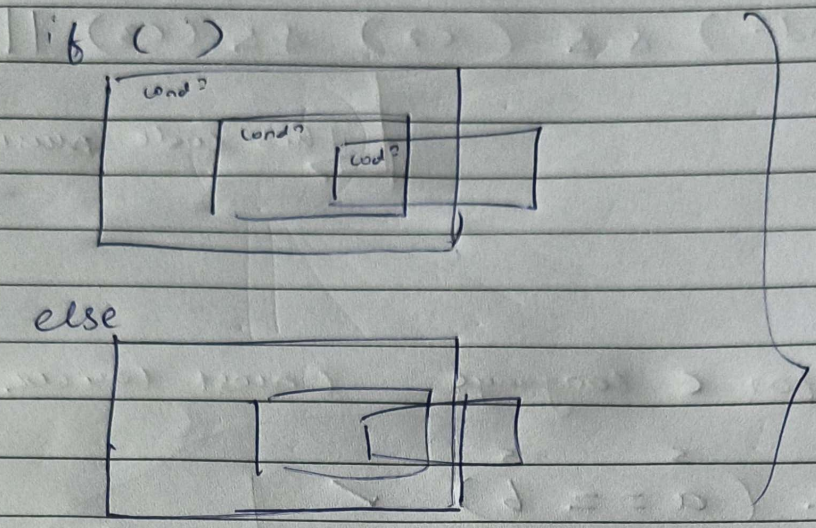
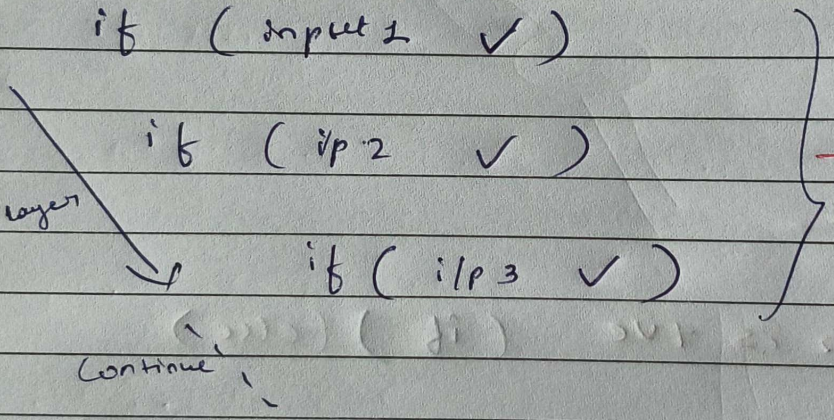
Ex :- Nested if else



This will be confusion because it will very complicated but we can refactor & re write.

fn? (- - - - -) → i/p.

checking the coming i/p is correct or not.



→ This is lengthy we can done by Early Exit

Ex :- → check it is wrong instead of right.

```
if ( inp 1 is wrong )
    return ;
if ( inp 2 is wrong )
    return ;
    core logic.
```

Ex:- more && cond^n s..

((cond^n) && (c2) && ((c3) || ((c4))

→ This code must be a bugs

* Imp for C language (most toughest bugs to find)

if (a == b) ✓ (a = 5, b = 5)
} execute.

but while put
if (a = b) ✓
} execute

It also execute
but it is
wrong.

Examples :-

number is +ve (if) (else)

```
number = 10
if (number > 0):
    print ("No. is +ve")
else :
    print (" no. is -ve")
```

if → it runs for if only

if else → if else runs

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for ~~if~~ if else if else ... (nested if else)

```
number = 0

if (number > 0):
    print ("No. is +ve")

elif (number < 0):
    print ("No. is -ve")

else:
    print ("No. is Zero")
```

Classify the stds %tage :-

```
def getClassForPercentage (percentage : float) -> str:

    if (percentage >= 75):
        return "Distinction"

    elif (percentage >= 60):
        return "1st class"

    elif (percentage >= 50):
        return "2nd class"

    elif (percentage >= 35):
        return "3rd class"

    else:
        return "Failed"
```