* Conditionals & loops *

→ conditions:

Q. i/p → a,b; a>b → "Answer is a", b>a → "Answer is B"

Ans: if (a>b) {
```
        cout << "Answer is a" << endl;
    } else if (b>a) {
        cout << "Answer is b" << endl;
    } else {
        cout << "equal " << endl;
    }
```

→ Take input: int a;
```
            cin >> a;
```

input with space
```
            int a,b;
            cin >> a,b << endl;
```

input with enter
```
            int a,b;
            cin >> a;
            cin >> b;
```

Q. Num is +ve, -ve or 0?
```
        int a;
        cin >> a;
        if (a>0) { cout << "+ve"; }
        else if (a<0) { cout << "-ve"; } else { cout << "0"; };
```

→ cin.get();   a = cin.get(); → reed space and tab also

→ just return value of first character.

* Nested if-else :-

Q. num is prime or Not?

```
        i = 2;
    if (n > 0) {
        if (n == 2) {
            cout << "n is prime" << endl;
        } else {
            while (i < n/2) {
                if (n%i == 0) {
                    cout << "num is not prime"
                         << endl; return
                }
                i++;
            }
            cout << "num is prime" << endl;
        } else {
            cout << "num is -ve or zero" << endl;
        }
    }
```

* loops:

① **while loop:**   i = 0; n = 5   while(condition){
Q. print 0 to n.   if true

```cpp
while ( i<n ) {
        cout << i << endl;        then execute
        i++;                 y    this code
    }
y
```

Q. Sum 1 to N.

```cpp
    i=1; sum =0 ; cin << n;

    while ( i≤n ) {
        sum = sum +1;
        i= i+1 ;
    }
    cout << sum << endl;
```

Q. find sum of all even numbers from 1 to N.

```cpp
    sum =0 ; i= 2 ;  cin << N;

    while ( i≤N) {
        sum =sum + i;
        i= i +2;
    }
    cout << sum << endl;
```

* Patterns:

Q.1. ☆ ☆ ☆ ☆
      ☆ ☆ ☆ ☆
      ☆ ☆ ☆ ☆
      ☆ ☆ ☆ ☆

Q2. | | |
      2 2 2
      3 3 3