```cpp
#include <iostream>
int main() {
    int digit;
    std::cin >> digit;
    if ( digit == 0)
        std::cout << " Zero";
    else if ( digit == 1)
            std::cout << " One";
        else if ( digit == 2)
            std::cout << " Two";

    ;
```

```cpp
    else  if (digit == 9)
            std:: cout << "Nine";

        else
            std:: cout << "Invalid input";

    return 0;
}
```

---

switch   case   break   default

```cpp
switch ( expression ) {
    case  const_value :
```

statement (s) ← Should be
unique

Case   const_value :
                statement (s)

[default :
                statement(s)   ] ← optional

}

```cpp
#include <iostream>

int main() {
    int digit;
    std::cin >> digit;

    switch (digit) {
        case 0:
            std::cout << "Zero";
            break;    // ← come out of switch case
        case 1:
            std::cout << "One";
            break;
```

```cpp
        case 2:
            std::cout << " Two";
            break;
        ;

        case 9:
            std::cout << " Nine";
            break;
        default:
            std::cout << " Invalid input";

    }
```

```cpp
#include < iostream>
int main () {
```

```cpp
int digit;
std:: cin >> digit;
if ((digit == 1) || (digit == 3) ||
    (digit == 5) || (digit == 7) ||
    (digit == 9))
    std:: cout << "odd";
else if ((digit == 2) || (digit == 4) ||
         (digit == 6) || (digit == 8))
```

```cpp
        std::cout << "Even";
    else
        std::cout << "Invalid Input";

    return 0;
}
```

```cpp
    switch (digit) {
        case 1:
            std::cout << "odd";
            break;
        case 3:
            std::cout << "odd";
```

```cpp
        break;
    ;

Case 2:
        std:: cout << "Even";
        break;
Case 4:
        std:: cout << "Even";
        break;

    :

default:
        std:: cout << "Invalid input";
}
```

OR

```cpp
switch (digit) {
    case 1:
    case 3:
        case 5:
        case 7:
        case 9:
                std:: cout << " odd";
                break;
    case 2:
    case 4:
    case 6:
        case 8:
```

```cpp
            std::cout << "even";
            break;
        default:
            std::cout << "Invalid input";
}
```

Loop $\rightarrow$ top tested
      $\searrow$ bottom tested

for   while   } top tested

do   while   } bottom tested.

while loop

while (condition) if true

Statement / statement block.

Print numbers from 1 to n.

```
#include <iostream>
int main() {
    std::cout << "Enter value of n";
    int n;
    std::cin >> n;
```

```cpp
int no = 1;

while ( no <= n ) {
    std:: cout << no;
    std:: cout << ' ';
    no = no + 1;
}

return 0;
}
```

n = 5

O/P:

12345

O/P

1 2 3 4 5

std:: cout << no << ' ';

Exercise: Modify above program to also print negative numbers, starting from 1.

Print character A. => std::cout << 'A';

Print a blank   std::cout << 'b';
space
                                    ↑
                            one blank space

Print new line → std::cout << '\n';
                                        ↑ Escape
                                          sequence

              'AB' ✗
                                        \b
                                        \a
                                        \t
                                        \r

153   digit count $= 3$

$$1^3 + 5^3 + 3^3 = 1 + 125 + 27$$
$$= 153 \checkmark$$

231 $\rightarrow$ Two Three One

5312 $\rightarrow$ Five thousand three hundred twelve