

Section 5 : C++ Basics

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Section 5 : C++ Basics

```
#include <iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    string name;
```

```
    cout<<"Enter your name: ";
```

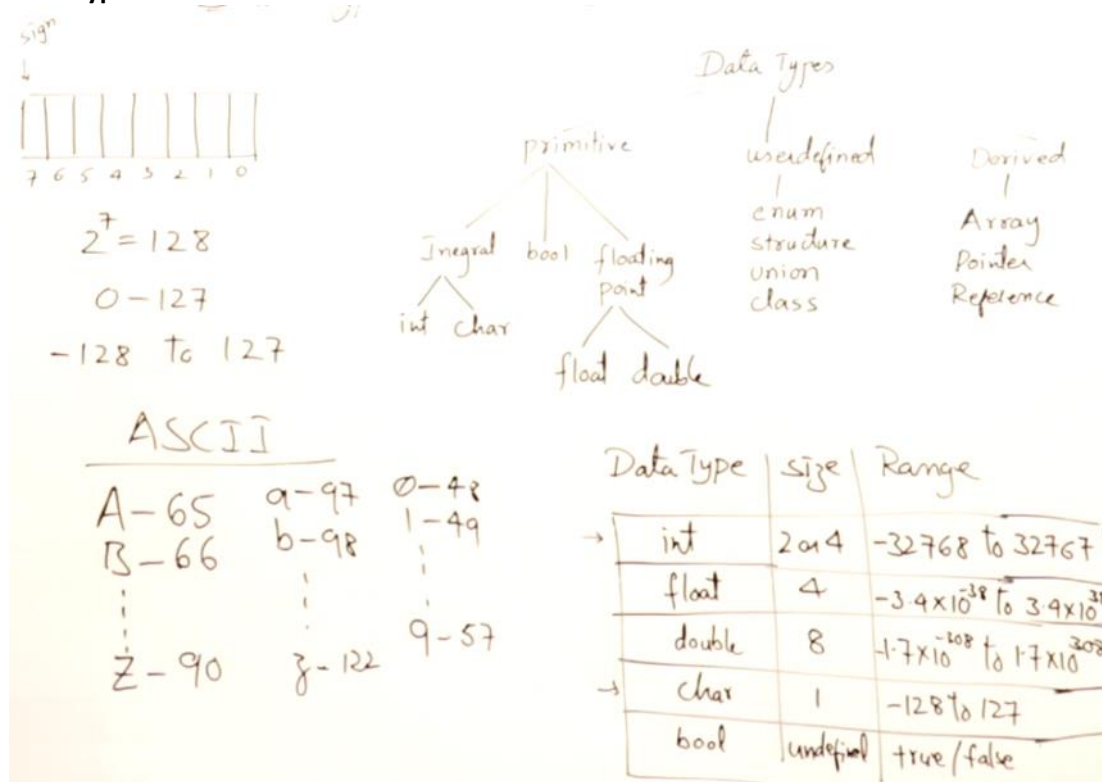
```
    getline(cin, name);
```

```
    cout<<"Hello "<<name;
```

```
    return 0;
```

```
}
```

Data Types :



Modifiers
unsigned
long

unsigned int
0-65535

unsigned char
0-255

long int — 4 bytes
8 bytes

long double — 10 bytes

```
int main()
{
```

```
    int rollno=10;    [ 2
```

```
    char group='A';
```

```
    float price=12.75f;
```

```
    ✓ int x1;
```

```
    ✗ int 1x;
```

```
    ✓ int rollno;
```

```
    ✗ int roll no;
```

```
    ✓ int roll_no;    -10
```

```
    ✓ int rollNo;
```

```
    int RollNo;
```

Variables : Variables are the names given to data.

Operators :

Arithmetic — +, -, *, /, %
+
-
* astrik Logical — &, ||, !
/
% mod Bitwise — &, |, ~, ^
Increment/Decrement — ++, --
Assignment — =

Precedence :


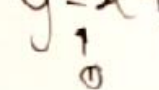
$x = \underbrace{a}_{3} + \underbrace{b * c}_{1} - \underbrace{d}_{1} / \underbrace{e}_{2}$
4

| operator | Assumed Precedence |
|----------|--------------------|
| () | 3 |
| *, /, % | 2 |
| +, - | 1 |

Compound Assignment :

| | | | |
|----|-----|-------------------------------------|-----------|
| += | | Sum = Sum + a; 15 5 10 | Sum += a; |
| -= | &= | | |
| *= | = | Sum = Sum + b; 20 15 5 | Sum += b; |
| /= | <<= | | |
| %= | >>= | | |

Increment Decrement Operators :

| | | | |
|-----------------|-----------------|---|----------------|
| <u>pre inc</u> | <u>pre dec</u> | $y = \textcircled{2} + \textcircled{1} x;$  | x = 6 y = 6 |
| ++x; | --x; | | x = 6 y = 5 |
| <u>post inc</u> | <u>post dec</u> | $y = x \textcircled{1} ++;$  | |
| x++; | x--; | | |

Bitwise Operators :

| bit ₁ | bit ₂ | bit ₁ ^ bit ₂ | & and |
|------------------|------------------|-------------------------------------|--------|
| 0 | 0 | 0 | or |
| 1 | 0 | 1 | ^ x-or |
| 0 | 1 | 1 | ~ not |
| 1 | 1 | 0 | << |
| | | | >> |

Enum :

If we want to define our own data type, we can use the existing one to define new.

Enum day {mon, tue, wed, thu, fri, sat, sun}

```

enum day {mon, tue, wed, thu, fri, sat, sun};
           0   1   2   3   4   5   6
           ^
           data type
int main()
{
    day d;
    d = mon;
    d = fri;
    *d = 0;
    if(d == mon)

```

```
enum dept {cs=11, 2ece, 3it, 4civil}
```

```
int main()
```

```
{  
    dept d;
```

```
    d=cs;
```

```
enum day {mon=11, 2tue, wed=35, 6thur, 7fri, 9sat=89, 10sun}
```

Typedef :

Used for readability.

```
typedef int marks;
```

```
typedef int rollno;
```

```
int main()
```

```
{
```

```
    marks m1, m2, m2;
```

```
    rollno r1, r2, r3;
```