

12th Std / C++ / Key points

- 1) 1960 : Began to examine unethical usage of computers
- 2) 1980 : C++ Developed
- 3) 1990 : Courses on computer ethics

- 4) Bjarne Stroustrup : Developer of C++
- 5) Rick Mascitti : C++ name coined
- 6) 0 : Octal constant starts with 0
- 7) 0 : Array index starts with zero
- 8) 0 : FALSE
- 9) 0x : Hexadecimal starts with 0x
- 10) \0 : string literal ends with NULL character
- 11) \ : backslash
- 12) // : comment
- 13) . [dot] : dot operator
- 14) : [colon] : used in inheritance
- 15) :: : scope resolution operator
- 16) :: : can not be overloaded

- 17) 3 categories : data types are of 3 categories [User Defined, Built-in , Derived]
- 18) 3 types : fundamental data types [int, float, void]
- 19) 3 modes : three visibility modes Private, Public, Protected
- 20) 3 technical elements : to reach out the benefits of IT to common men
- 21) 3 steps : in Medical Transcription

- 22) 4 : 4 storage classes [auto, static, extern, register]
- 23) 5 : Tokens are classified into 5 categories

- 24) 85 % : computer usage Word processing
- 25) Non-Zero : TRUE
- 26) E or e : floating point constant

- 27) ASCII : American Standard Code Information Interchange
- 28) MSB : Most Significant Bit or sign bit
- 29) BPO : Business Process Outsourcing
- 30) ITES : IT enabled Services
- 31) BFSI : Banking, Financial Services and Insurance
- 32) CBT : Computer Based Tutorials
- 33) ATM : Automated Teller Machines

- 34) _ (underscore) : Names begin with underscore are reserved for internal system variables
- 35) \ : escape sequence
- 36) # , ## : pre processor

37) ~ : Bitwise Unary operator
38) ~ : Destructor starts with this symbol
39) % : Modulus (Remainder)
40) * : Value at operator

41) & : Address of operator
42) & : AND
43) && : Logical AND
44) | : OR
45) || : Logical OR

46) <<= : Assign left shift
47) >>= : Assign right shift
48) &= : Assign bitwise AND
49) ^ : XOR
50) -> : Indirect component selection
51) pow (x, y) : x^y

52) void *vptr : generic pointer

53) unsigned char : 8 bits / 1 byte 0 to 255
54) signed char : 8 bits / 1 byte :128 to 127
55) enum : 16 bits / 2 bytes :32768 to 32767
56) int / short int : 16 bits / 2 bytes :32768 to 32767
57) unsigned int : 16 bits / 2 bytes 0 to 65535
58) long int : 4 bytes
59) float : 4 bytes
60) double : 8 bytes
61) long double : 10 bytes

62) $5+6/3 = 7$
63) $5*6/3 = 10$
64) $(5 + 6) / 3 = 3$
65) $1+ \text{pow} (3 , 2) = 10$

66) Precedence, Associativity : Compile Time Concepts
67) Order of Evaluation : Run Time Concepts

Operator Precedence

68) Postfix ++ : Left to Right
69) Prefix ++ : Right to Left

```
#include<iostream.h>    \\cpp page 21
#include<conio.h>
void main()
{
    clrscr();
    int a=5;
    int b=5;
    a = a + b++;    \\ a=a+b then b++
    cout<<a;
    getch();
}
```

OUTPUT: 10

```
#include<iostream.h>    \\cpp page 21
#include<conio.h>
void main()
{
    clrscr();
    int x=10;
    int f=20;
    int c = x++ + ++f ;    \\ c= x + ++f then x++
    cout<<c;
    cout<<x;
    cout<<f;
    getch();
}
```

OUTPUT : 31 11 21

```
#include<iostream.h>    \\cpp page 21
#include<conio.h>
void main()
{
    clrscr();
    int fun=1;
    int sim=2;
    int final = --fun + ++sim - --fun;
    cout<<fun;
    cout<<sim;
    cout<<final;
    getch();
}
```

OUTPUT : -1 , 3 , 4

```
#include<iostream.h>    \\cpp page 22
#include<conio.h>
void main()
{
    clrscr();
```

```

    int num1=99;
    int num2=20;
    int num3=10;
    int c;
    c=(num1+num2-num3)/5*2<(num1%10);
    cout<<c;
    getch();
}
OUTPUT : 0 [ means FALSE ]

```

```

-----

#include<iostream.h>    //cpp page 21
#include<conio.h>
void main()
{
    clrscr();
    int a=0;
    int c= a++ - a++; // 1 - 2 gives -1 to c
    cout<<c;           // value at c is -1
    cout<<"\t"<<a; // value at a is 2
    getch(); // OUTPUT: -1    2
}

```