```cpp
/*
- Variables
--- Basics
*/
#include <iostream>
using namespace std;
int main()
{
    int val = 500;
    cout << val << "\n";
    val = 400;
    cout << val << "\n";
    // int val =200; // Error --> redeclarition
    // cout << val ;
    cout << "====================\n";

    int val2;
    val2 = 150;
    cout << val2 << "\n";
    cout << "val2" << "\n";

    cout << "====================\n";

    int a, b, c;
    a = b = c = 50;
    cout << a << " " << b << " " << c << "\n";

    return 0;
}
```

```cpp
/*
- Variables
--- Another declarition types
--- Global , local scopes
*/
#include <iostream>
using namespace std;

int glob = 1000;
void second ();
int main ()
{
    int x = 50;
    int y (60);
    int z {40};
    cout << x << " " << y << " " << z << "\n";

    cout << "======================\n";

    cout << glob << " From Main\n";
    // cout << loc << " From Main\n"; // Cannot
    second();

}
void second ()
{
    int loc = 500;
    cout << glob << " From Second\n";
    cout << loc << " From Second\n";
    // cout << x << " From Second\n"; // Cannot
}
```

```cpp
/*
- Variables
--- Literals in Variables
*/
#include <iostream>
using namespace std;
int main()
{
    long long int numOne = 5000;
    cout << sizeof(numOne) << "\n";
    cout << sizeof(5000) << "\n";
    cout << sizeof(5000ll) << "\n";
    /*
    75         // int
    75u        // unsigned int
    75l        // long
    75ul       // unsigned long
    75lu       // unsigned long
    */
    // With floating number --> l --> long double
    /*
    f or F  float
    l or L  long double
    */
    cout << sizeof(5000.5l) << "\n";
    cout << sizeof(5000.5f) << "\n";
}
```

```cpp
/*
- Variables
--- Constant
*/
#include <iostream>
using namespace std;
const int num1 = 100;
const char newline = '\n';
const char tab = '\t';
int main ()
{
    cout << num1 << newline;
    // num1 = 200; // Error it's constant --> Cannot Update Value
    cout << num1 << newline;

    cout << "======================" << newline;
    cout << num1 << tab << num1;
}
```

```cpp
/*
- Variables
-- Escape Sequences Characters
---- Special Non Printing Characters
---- Control Printing Behaviour
---- Start With Back Slash "\"
---- Can Be Inserted In Any Position
- \n => new line
- \\ => insert \
- \" => insert "
- \' => insert '
- \t => Tab Equal 2/4/6/8 Spaces
- \b => backspace
- \a => Alert (Beep)
- \r => Carriage Return
*/
// Important :'/r' , '/b'--> Overwrite texts
#include <iostream>
using namespace std;
int main()
{
    cout << "Youssef\tAhmad";
    cout << "\n";
    cout << "Jo\nNasr";
    cout << "\n";
    cout << "My Birth day : 05\\03\\05"; // Print : 05/03/05
    cout << "\n";
    cout << "will not appear\rYoussef Ahmad Nasr";
    cout << "\n";
    cout << "12345\r56";
    cout << "\n";
    cout << "My Name : \"Jo Nasr\"";
    cout << "\n";
    cout << "ABCDEF\b";
    cout << "\n";
    cout << "ABCDEF\ba";
    cout << "\n";
    cout << "ABCDEF\b\bab";
    cout << "\n";
    cout << "ABCDEF\b\b\babc";
    cout << "\n";
    cout << "ABCDEF\b\b\b\b\b\ba";
    cout << "\n";
    cout << "ABCDEF\b\b\b\b\b\b1234";
}
```