


```
1  /*
2  - Variables
3  --- Basics
4  */
5  #include <iostream>
6  using namespace std;
7  int main()
8  {
9      int val = 500;
10     cout << val << "\n";
11     val = 400;
12     cout << val << "\n";
13     // int val =200; // Error --> redeclaration
14     // cout << val ;
15     cout << "=====\n";
16
17     int val2;
18     val2 = 150;
19     cout << val2 << "\n";
20     cout << "val2" << "\n";
21
22     cout << "=====\n";
23
24     int a, b, c;
25     a = b = c = 50;
26     cout << a << " " << b << " " << c << "\n";
27
28     return 0;
29 }
```



```
1  /*
2  - Variables
3  --- Another declaration types
4  --- Global , local scopes
5  */
6  #include <iostream>
7  using namespace std;
8
9  int glob = 1000;
10 void second ();
11 int main ()
12 {
13     int x = 50;
14     int y (60);
15     int z {40};
16     cout << x << " " << y << " " << z << "\n";
17
18     cout << "=====\n";
19
20     cout << glob << " From Main\n";
21     // cout << loc << " From Main\n"; // Cannot
22     second();
23
24 }
25 void second ()
26 {
27     int loc = 500;
28     cout << glob << " From Second\n";
29     cout << loc << " From Second\n";
30     // cout << x << " From Second\n"; // Cannot
31 }
```



```
1  /*
2  - Variables
3  --- Literals in Variables
4  */
5  #include <iostream>
6  using namespace std;
7  int main()
8  {
9      long long int numOne = 5000;
10     cout << sizeof(numOne) << "\n";
11     cout << sizeof(5000) << "\n";
12     cout << sizeof(5000ll) << "\n";
13     /*
14     75          // int
15     75u         // unsigned int
16     75l         // long
17     75ul        // unsigned long
18     75lu        // unsigned long
19     */
20     // With floating number --> l --> long double
21     /*
22     f or F     float
23     l or L     long double
24     */
25     cout << sizeof(5000.5l) << "\n";
26     cout << sizeof(5000.5f) << "\n";
27 }
```



```
1  /*
2  - Variables
3  --- Constant
4  */
5  #include <iostream>
6  using namespace std;
7  const int num1 = 100;
8  const char newline = '\n';
9  const char tab = '\t';
10 int main ()
11 {
12     cout << num1 << newline;
13     // num1 = 200; // Error it's constant --> Cannot Update Value
14     cout << num1 << newline;
15
16     cout << "===== " << newline;
17     cout << num1 << tab << num1;
18 }
```



```
1  /*
2  - Variables
3  -- Escape Sequences Characters
4  ---- Special Non Printing Characters
5  ---- Control Printing Behaviour
6  ---- Start With Back Slash "\"
7  ---- Can Be Inserted In Any Position
8  - \n => new line
9  - \\ => insert \
10 - \" => insert "
11 - \' => insert '
12 - \t => Tab Equal 2/4/6/8 Spaces
13 - \b => backspace
14 - \a => Alert (Beep)
15 - \r => Carriage Return
16 */
17 // Important :'/r' , '/b'--> Overwrite texts
18 #include <iostream>
19 using namespace std;
20 int main()
21 {
22     cout << "Youssef\tAhmad";
23     cout << "\n";
24     cout << "Jo\nNasr";
25     cout << "\n";
26     cout << "My Birth day : 05\\03\\05"; // Print : 05/03/05
27     cout << "\n";
28     cout << "will not appear\rYoussef Ahmad Nasr";
29     cout << "\n";
30     cout << "12345\r56";
31     cout << "\n";
32     cout << "My Name : \"Jo Nasr\"";
33     cout << "\n";
34     cout << "ABCDEF\b";
35     cout << "\n";
36     cout << "ABCDEF\ba";
37     cout << "\n";
38     cout << "ABCDEF\b\bab";
39     cout << "\n";
40     cout << "ABCDEF\b\b\babc";
41     cout << "\n";
42     cout << "ABCDEF\b\b\b\b\bba";
43     cout << "\n";
44     cout << "ABCDEF\b\b\b\b\b\b1234";
45 }
```