```
/* TYPE CASTING
    Allow us to change the data type of a variable from one type to another.

    Crucial when we need to perform operations involving variables of different
    data types , ansuring that the data is handled correctly.

    for instance, int   <---> char
                  float  <---> int
                  double  <---> int  etc.



    TYPES OF TYPE CASTING

    1[ IMPLICIT TYPECASTING
    2]EXPLICIT TYPE CASTING

//----------------------------------------------------------------

IMPLICIT TYPE COVERSION/CASTING

Implicit Type Conversion Also known as ‘automatic type conversion’.

1] Done by the compiler on its own, without any external trigger from the user.

2] Generally takes place when in an expression more than one data type is present.
   In such condition type conversion (type promotion) takes place to avoid lose of data.

3] All the data types of the variables are upgraded to the data type of the variable
   with largest data type.

*/

#include <iostream>
using namespace std;


int main()
{
    int x = 10; // integer x
    char y = 'a'; // character c

    // y implicitly converted to int. ASCII
    // value of 'a' is 97
    x = x + y;

    // x is implicitly converted to float
    float z = x + 1.0;

    cout << "x = " << x << endl
         << "y = " << y << endl
         << "z = " << z << endl;

    return 0;
}

//--------------------------------------------------------------------------------
-

/*EXPLICIT TYPE CONVERSION: This process is also called type casting and it is user-
defined.
```

Here the user can typecast the result to make it of a particular data type.

In C++, it can be done by two ways:

1] Converting by assignment: This is done by explicitly defining the required type in front of the
expression in parenthesis. This can be also considered as forceful casting.

Syntax:

```
(type) expression
where type indicates the data type to which the final result is converted.
*/
// C++ program to demonstrate
// explicit type casting

#include <iostream>
using namespace std;

int main()
{
    double x = 1.2;

    // Explicit conversion from double to int
    int sum = (int)x + 1;

    cout << "Sum = " << sum;

    return 0;
}


/*2] Conversion using Cast operator: A Cast operator is an unary operator which forces one data type to be
converted into another data type.
C++ supports four types of casting:

1] Static Cast
2] Dynamic Cast
3] Const Cast
4] Reinterpret Cast
*/

#include <iostream>
using namespace std;
int main()
{
    float f = 3.5;

    // using cast operator
    int b = static_cast<int>(f);

    cout << b;
}

//
```
