Literals

Literals are data used for <u>representing fixed values</u>. They can be used directly in the code.

For example: 5, 3.5, 'b' , "Mohammed", ..etc.

Here, 5, 3.5, 'b' , "Mohammed" are literals. Why?

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You cannot assign different values to these terms.

Literal Types:

1. Integer Literals:
   1. decimal (base 10)
   2. octal (base 8)
   3. hexadecimal (base 16)

   Decimal: 0, -9, 22 etc
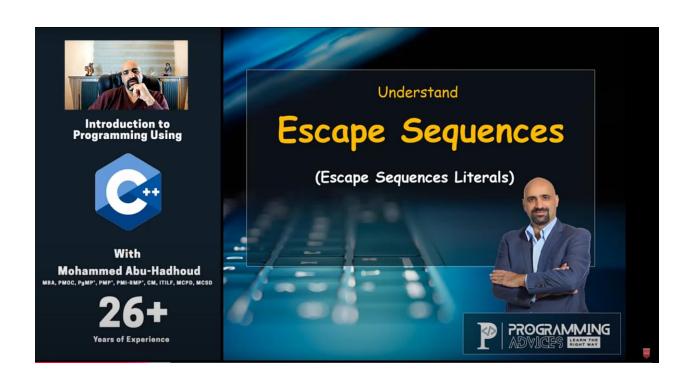   Octal: 021, 077, 033 etc
   Hexadecimal: 0x7f, 0x2a, 0x521 etc

   In C++ programming, octal starts with a 0, and hexadecimal starts with a 0x.

2. Floating-Point Literals: **13.5, 1.99, -8.07**
3. Characters Literals: A, b , z , $, #
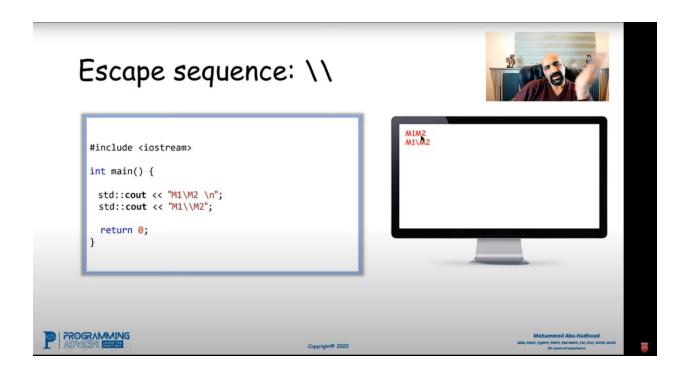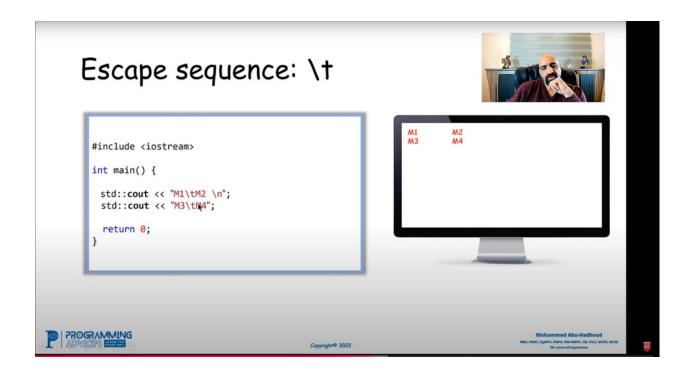4. Escape Sequences Literals: \n , it will be explained next .

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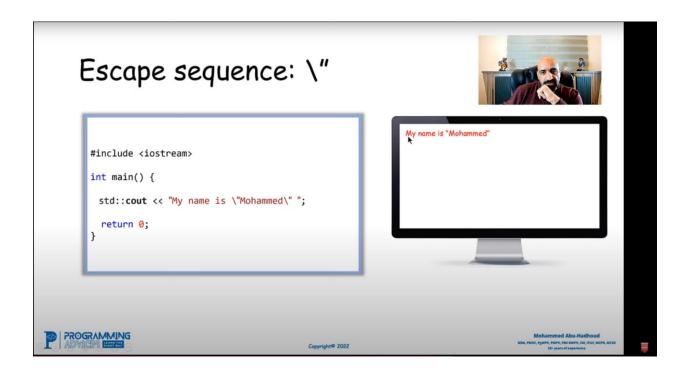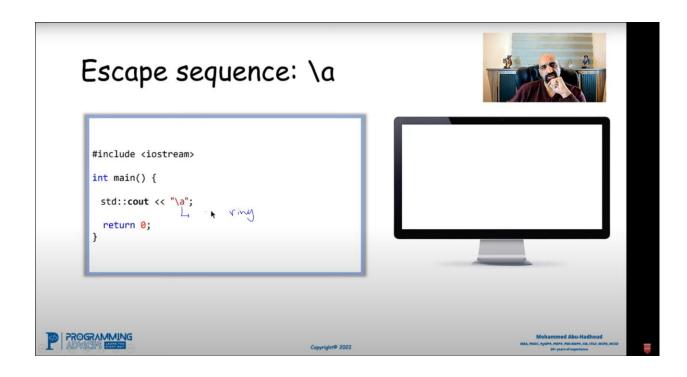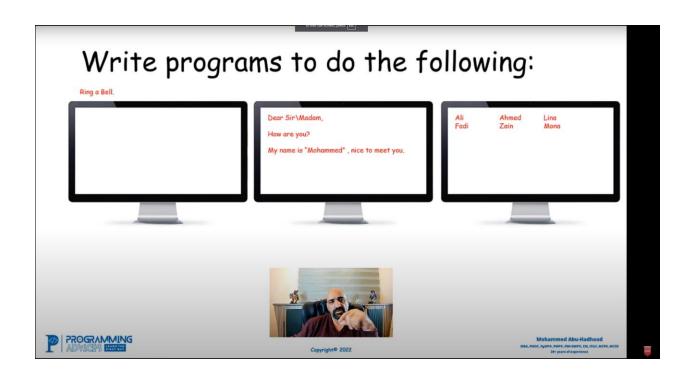
Some Escape Sequences

Escape Sequence	Meaning
\\	Backslash
\t	Tab
\n	Newline
\"	Double quote
\'	Single quote
\a	Audio bell

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Escape sequence: \\

```cpp
#include <iostream>

int main() {

  std::cout << "M1\M2 \n";
  std::cout << "M1\\M2";

  return 0;
}
```

```
M1M2
M1\M2
```

Escape sequence: \t

```cpp
#include <iostream>

int main() {

  std::cout << "M1\tM2 \n";
  std::cout << "M3\tM4";

  return 0;
}
```

```
M1      M2
M3      M4
```

Escape sequence: \"

```cpp
#include <iostream>

int main() {

  std::cout << "My name is \"Mohammed\" ";

  return 0;
}
```

My name is "Mohammed"

Escape sequence: \a

```cpp
#include <iostream>

int main() {

  std::cout << "\a";
         ⌐   ring
  return 0;
}
```

Write programs to do the following:

Ring a Bell.

Dear Sir\Madam,

How are you?

My name is "Mohammed" , nice to meet you.

Ali	Ahmed	Lina
Fadi	Zain	Mona

Answer the following questions:

What is literal?

Can you assign different values to a literal?

What are literal types?

Why do we need escape sequence literals?