Assignment 2: Binary numbers, data types and C Programs

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Core 1

1 = 2^3
0 = 2^2
2 = 2^1
1 = 2^0

11

Core 2

2^3 2^2 2^1 2^0
1101

Core 3

0101

0 = 2^3
1 = 2^2
0 = 2^1
1 = 2^0

5

Core 4

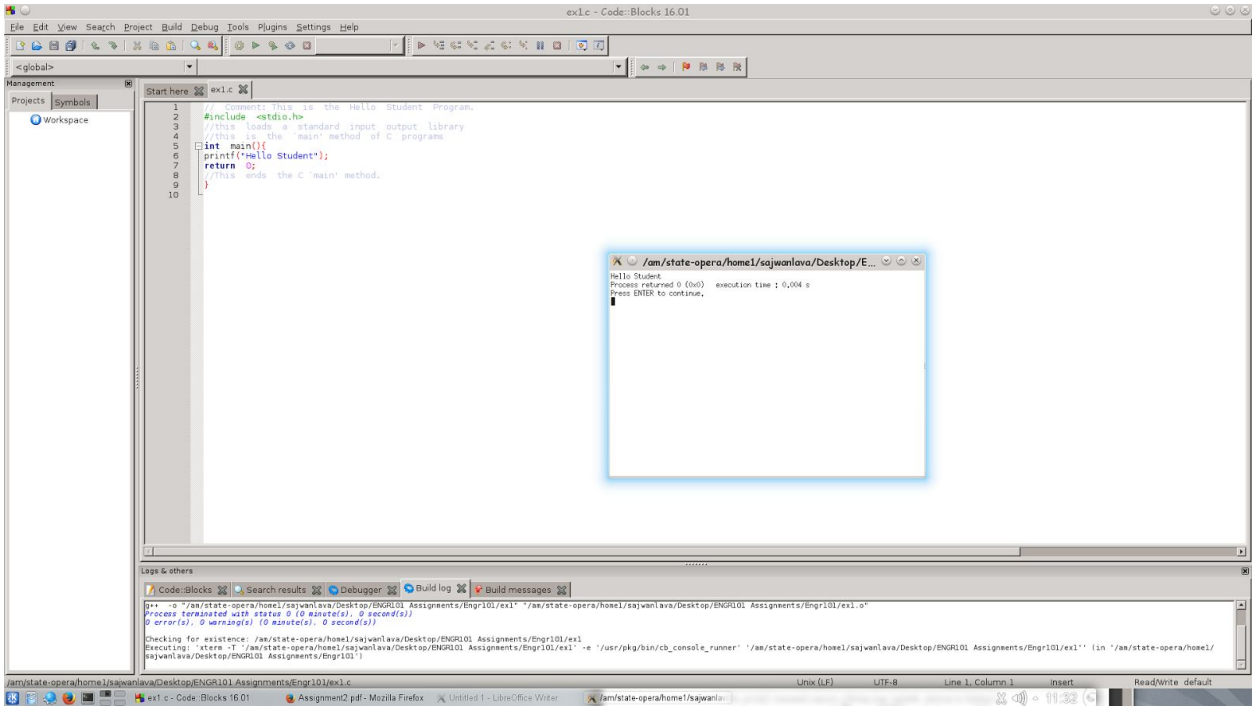
0110

0 = 2^3
1 = 2^2
1 = 2^1
0= 2^0

6

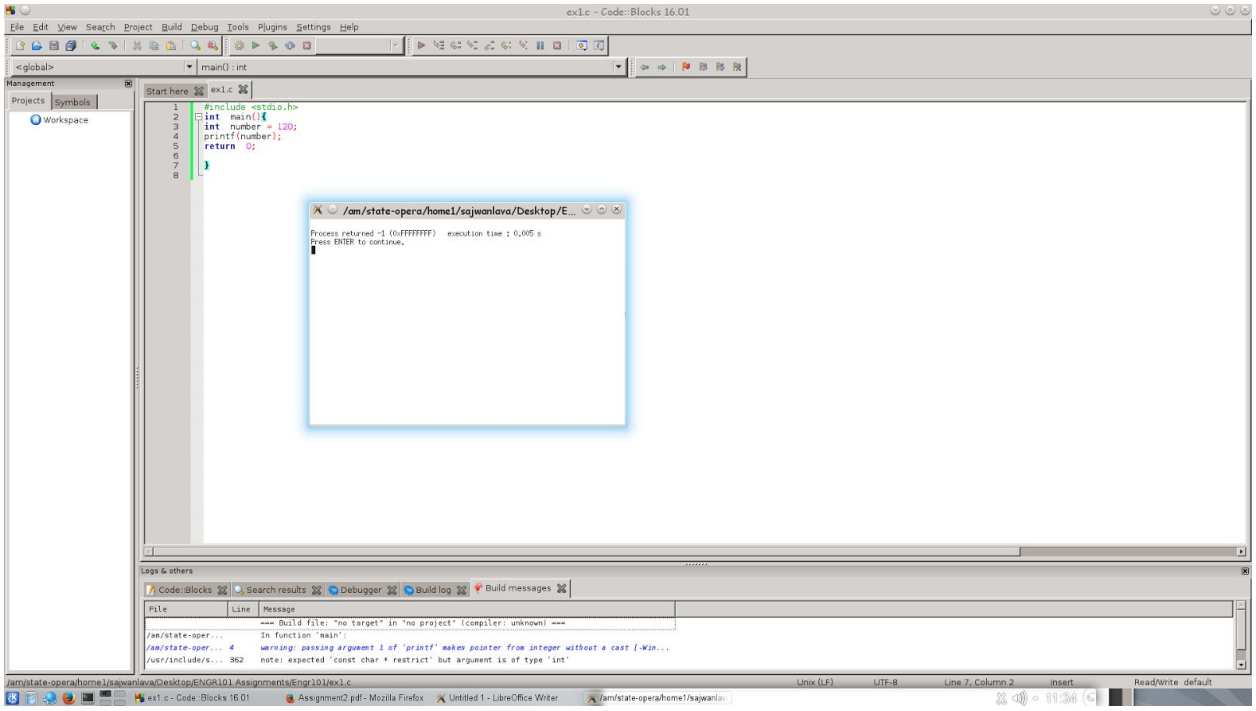
Core 5

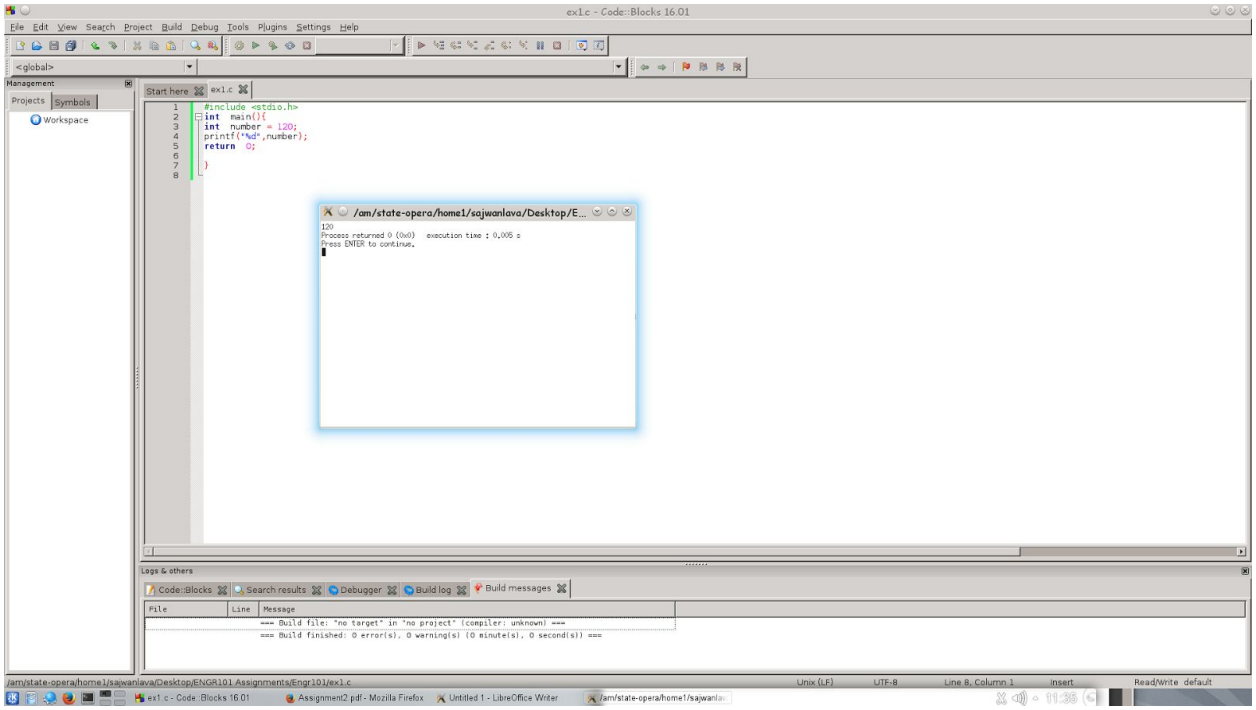
Compiler translates the code we have typed into another type of code that the computer can read.



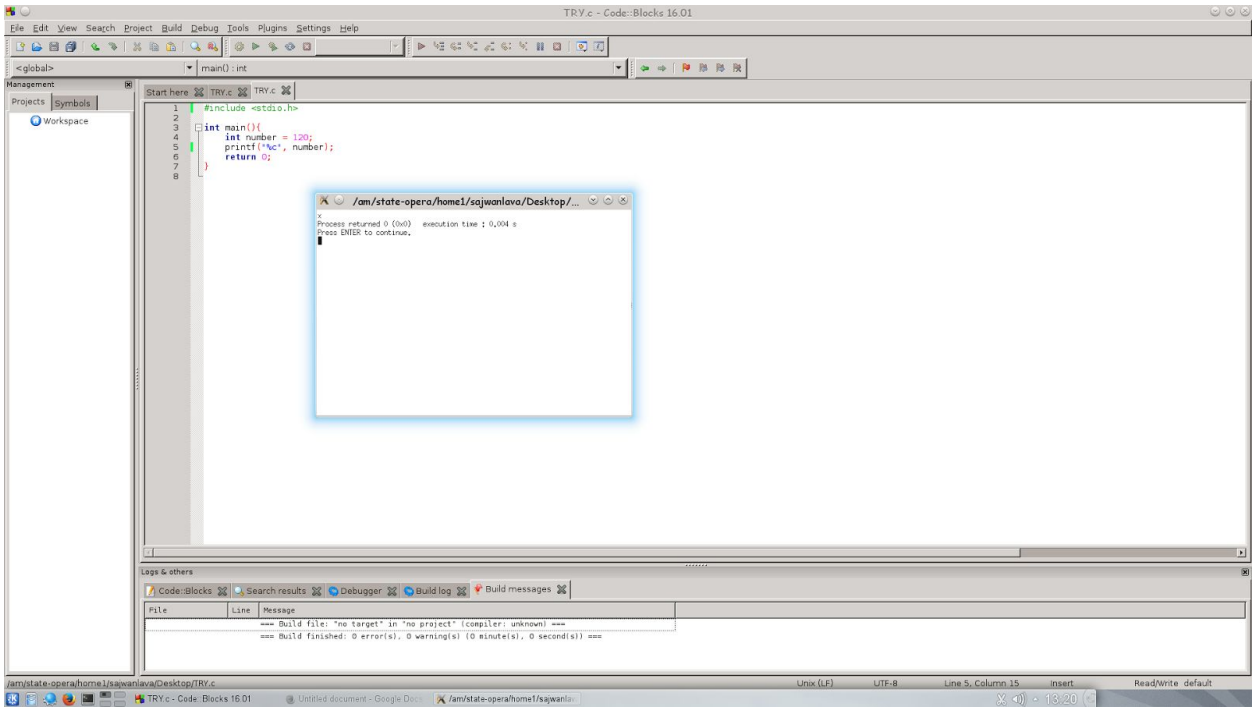
Core 7

The output of the code would be the number 120





Completion 1



The “%d” reads for decimals in the code and in this case we have defined 120. However when we replace the “%d” with the “%c”, the “%c” interprets the number as a character and in this case it comes out as a x.

Core 8

Variable	Size
Integer	4
Character	1
Long	8
Double	8

Challenge 1
Memory in computers can be retrieved and stored. Memory addresses are certain locations where the specific pieces of data are stored.

Core 9

Challenge 2

Core 10
2^7 2^6 2^5 2^4 2^3 2^2 2^1 2^0
128 64 32 16 8 4 2 1

00111100 = 60

2^7 2^6 2^5 2^4 2^3 2^2 2^1 2^0
128 64 32 16 8 4 2 1

00001101 = 13

Core 11

A	B	A AND B

0	0	0
0	0	0
1	0	0
1	0	0
1	1	1
1	1	1
0	0	0
0	1	0

00001100

2^7 2^6 2^5 2^4 2^3 2^2 2^1 2^0
128 64 32 16 8 4 2 1

12

Core 12

A	**B**	**A OR B**
0	0	0
0	0	0
1	0	1
1	0	1
1	1	1
1	1	1
0	0	0
0	1	1

00111101

2^7 2^6 2^5 2^4 2^3 2^2 2^1 2^0

128 64 32 16 8 4 2 1

61

Core 13

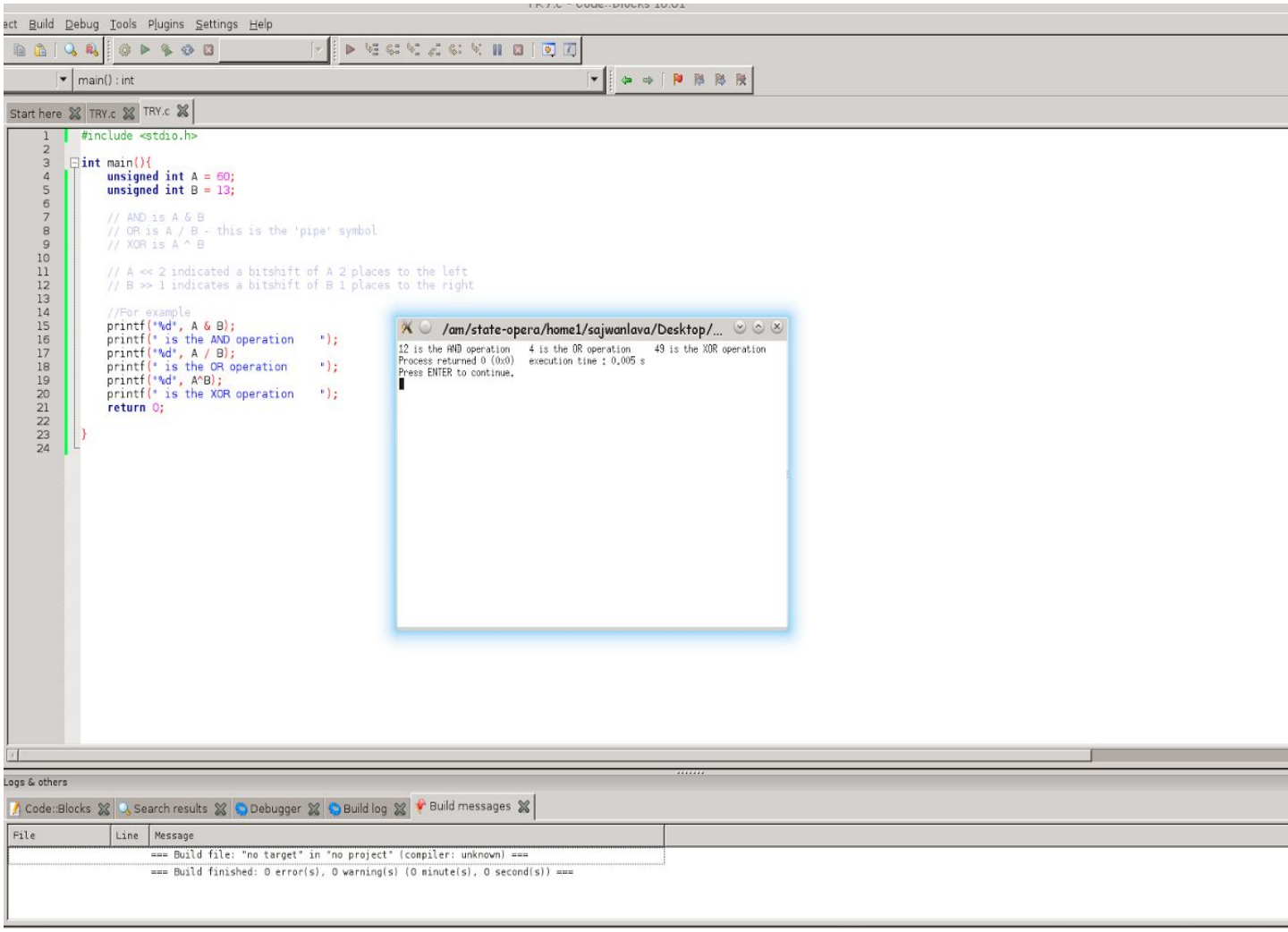
A	**B**	**A XOR B**
0	0	0
0	0	0
1	0	1
1	0	1
1	1	0
1	1	0
0	0	0
0	1	1

00110001

2^7 2^6 2^5 2^4 2^3 2^2 2^1 2^0
128 64 32 16 8 4 2 1

49

Completion 2



Challenge 3

Challenge 4