

Caelan Osman

1.

true_ :(valid, wouldn't be valid if "true" was the identifier)

True :(valid, wouldn't be valid if "true" was the identifier)

false not valid :(not valid; spaces)

_42 :(valid)

L33T :(valid)

nospaces :(valid)

Main :(valid)

friend :(valid)

google-plex :(not valid because of the dash)

integer :(valid)

C@n@d@ :(not valid, special characters such as @ not allowed)

double :(not valid, double is a keyword)

isthisavalididentifiereventhoughithasmorethan31characters? :(invalid variable names can't include question marks)

2. $1048575 = 2^{19} + 2^{18} + 2^{17} + 2^{16} + \dots + 2^2 + 2^1 + 2^0 = (2^{20}) - 1$

3. A truncates 3.9 to 3 since it is an int data type.

B truncates 8.2 to 8 since it is an int data type.

C truncates 8/3 to 2 because it is an int data type.

C-B is $2 - 8 = -6$;

So D is assigned with -6.

D = -6;

4. #include <string> to access the string library

5. 4 bytes: 32 bits assigned to an int data type, 8 bits in a byte $32/8 = 4$.

6. 9, we know that 45 is congruent to 9 mod 12. As $45 - 9 = 36$ / 12 is 3. Because we have a 0 remainder, 9 is our congruence factor.

7. double F (1.0), G (2.0), H (3.0);

8. `#include <iostream>` we need to be able access the input – output stream i.e. `iostream`.

9. that the data the identifier represents is constant and cannot be modified throughout the scope of the variable.