Coded Binary Numbers - Solved Examples

In a certain code, the symbol for 0 is # and for 1 is =. There is no symbol for rest of the numbers. Numbers greater than 1 are needed to be written using the two given symbols. Left shifting of 1 doubles its value each time. Study the following example.

0 is written as #

1 is written as =

2 is written as =#

3 is written as ==

4 is written as =## and so on

Q 1 − Which of the following will represent 2x2+3x2+3x3+2×2?

Options :

A - #===#

B - =#===

C - =====

D - #####

Answer - B

Explanation

Here the solution is 23. After dividing this number with 2, we will get remainder as 101111. This means the symbol will be =#===.

In a certain code, the symbol for 0 is # and for 1 is =. There is no symbol for rest of the numbers. Numbers greater than 1 are needed to be written using the two given symbols. Left shifting of 1 doubles its value each time. Study the following example.

0 is written as #

1 is written as =

2 is written as =#

3 is written as ==

4 is written as =## and so on

Q 2 − Which of the following number will be represented by =###=

Options :

A - 25

B - 17

C - 29

D - 31

Answer - B

Explanation

=###=can be represented as 10001 it means 16+0+0+0+1 = 17.

In a certain code, the symbol for 0 is # and for 1 is =. There is no symbol for rest of the numbers. Numbers greater than 1 are needed to be written using the two given symbols. Left shifting of 1 doubles its value each time. Study the following example.

0 is written as #

1 is written as =

2 is written as =#

3 is written as ==

4 is written as =## and so on

Q 3 − Choose the combination that will represent 28.

Options :

A - ====#

B - =#=#=

C - ==###

D - ===##

Answer - D

Explanation

11100 is the remainder after dividing the asked number with 2. So our answer will be ===##.

In a certain code, the symbol for 0 is # and for 1 is =. There is no symbol for rest of the numbers. Numbers greater than 1 are needed to be written using the two given symbols. Left shifting of 1 doubles its value each time. Study the following example.

0 is written as #

1 is written as =

2 is written as =#

3 is written as ==

4 is written as =## and so on

Q 4 − Which of the following will represent =####?

Options :

A - 29

B - 30

C - 31

D - 32

Answer - D

Explanation

=##### can be represented as 100000. This is nothing but 32.

In a certain code, the symbol for 0 is # and for 1 is =. There is no symbol for rest of the numbers. Numbers greater than 1 are needed to be written using the two given symbols. Left shifting of 1 doubles its value each time. Study the following example.

0 is written as #

1 is written as =

2 is written as =#

3 is written as ==

4 is written as =## and so on

Q 5 − Which of the following symbols will be represent 9?

Options :

A - ####

B - ====

C - =#=#

D - =##=

Answer - D

Explanation

The number 9 can be represented as 1001. It means =##=.

In a certain code, the symbol for 0 is # and for 1 is =. There is no symbol for rest of the numbers. Numbers greater than 1 are needed to be written using the two given symbols. Left shifting of 1 doubles its value each time. Study the following example.

0 is written as #

1 is written as =

2 is written as =#

3 is written as ==

4 is written as =## and so on

Q 6 − Which of the following numbers will be represent 17?

Options :

A - ###=

B - ##=#

C - =###=

D - None of the above

Answer - C

Explanation

The number 17 can be represented as 10001. It means =###=.

In a certain code, the symbol 0 is written as * and 1 is written as +. There is no symbol for rest of the numbers. Numbers greater than 1 are needed to be written using the two given symbols. Left shifting of 1 doubles its value each time. Study the following example.

0 is written as *

    1 is written as +

    2 is written as +*

    3 is written as ++

    4 is written as +**

Q 7 − Which of the following numbers will be represented by ++?**

Options :

A - 5

B - 4

C - 7

D - 9

Answer - D

Explanation

The number is +**+ = $(1001)_2$ = $(9)_{10}$

In a certain code, the symbol 0 is written as * and 1 is written as +. There is no symbol for rest of the numbers. Numbers greater than 1 are needed to be written using the two given symbols. Left shifting of 1 doubles its value each time. Study the following example.

    0 is written as *

    1 is written as +

    2 is written as +*

    3 is written as ++

    4 is written as +**

Q 8 − Which of the following numbers will be represented by *++*?

Options :

A - 9

B - 6

C - 7

D - 2

Answer - B

Explanation

The number is *++* = $(0110)_2$ = $(6)_{10}$

In a certain code, the symbol 0 is written as * and 1 is written as +. There is no symbol for rest of the numbers. Numbers greater than 1 are needed to be written using the two given symbols. Left shifting of 1 doubles its value each time. Study the following example.

0 is written as *

1 is written as +

2 is written as +*

3 is written as ++

4 is written as +**

Q 9 − Which of the following numbers will be represented by **++?

Options :

A - 7

B - 9

C - 8

D - 3

Answer - D

Explanation

The number is **++ = $(0011)_2$ = $(3)_{10}$

In a certain code, the symbol 0 is written as * and 1 is written as +. There is no symbol for rest of the numbers. Numbers greater than 1 are needed to be written using the two given symbols. Left shifting of 1 doubles its value each time. Study the following example.

0 is written as *

1 is written as +

2 is written as +*

3 is written as ++

4 is written as +**

Q 10 − Which of the following numbers will be represented by ++?**

Options :

A - 25

B - 5

C - 06

D - 09

Answer - D

Explanation

The number represented by +**+ is $(1001)_2$ = $(09)_{10}$