

Coding Question:



QUESTION:

Write a code in any programming language that converts binary number to decimal number.

Solution:

```
// C++ program to convert binary to decimal
#include <bits/stdc++.h>
using namespace std;

// Function to convert binary to decimal
int binaryToDecimal(int n)
{
    int num = n;
    int dec_value = 0;

    // Initializing base value to 1, i.e 2^0
    int base = 1;

    int temp = num;
    while (temp) {
        int last_digit = temp % 10;
        temp = temp / 10;

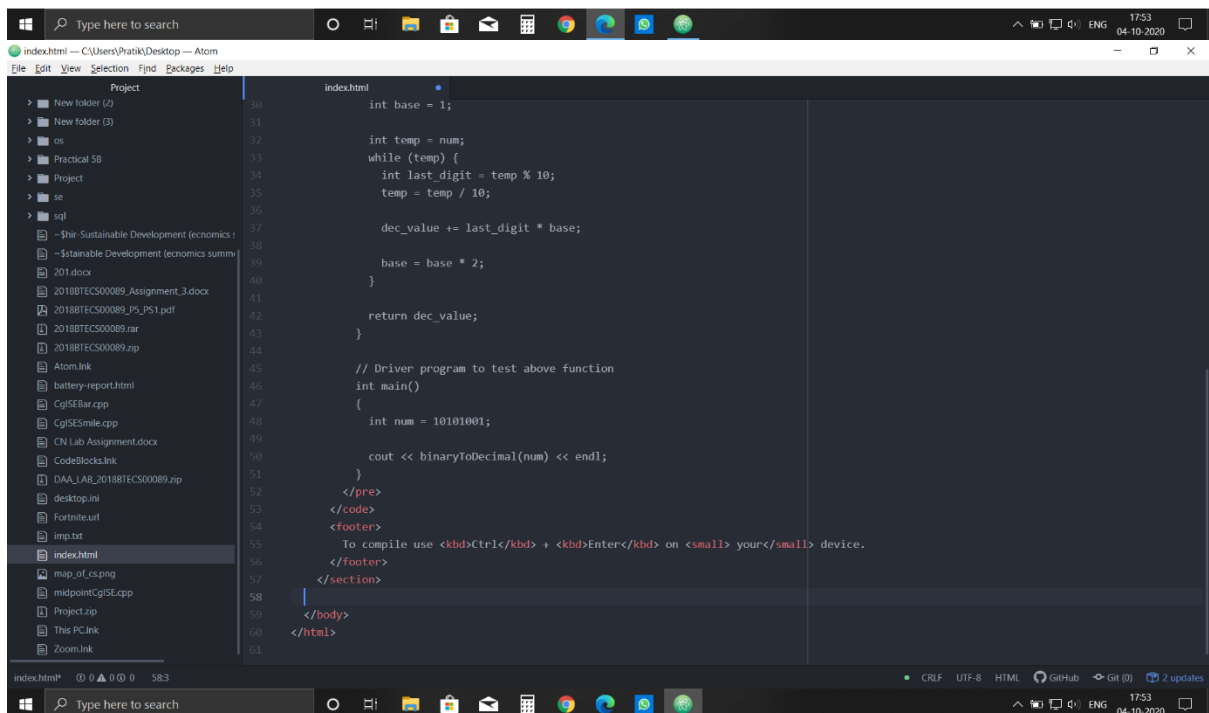
        dec_value += last_digit * base;
        base = base * 2;
    }

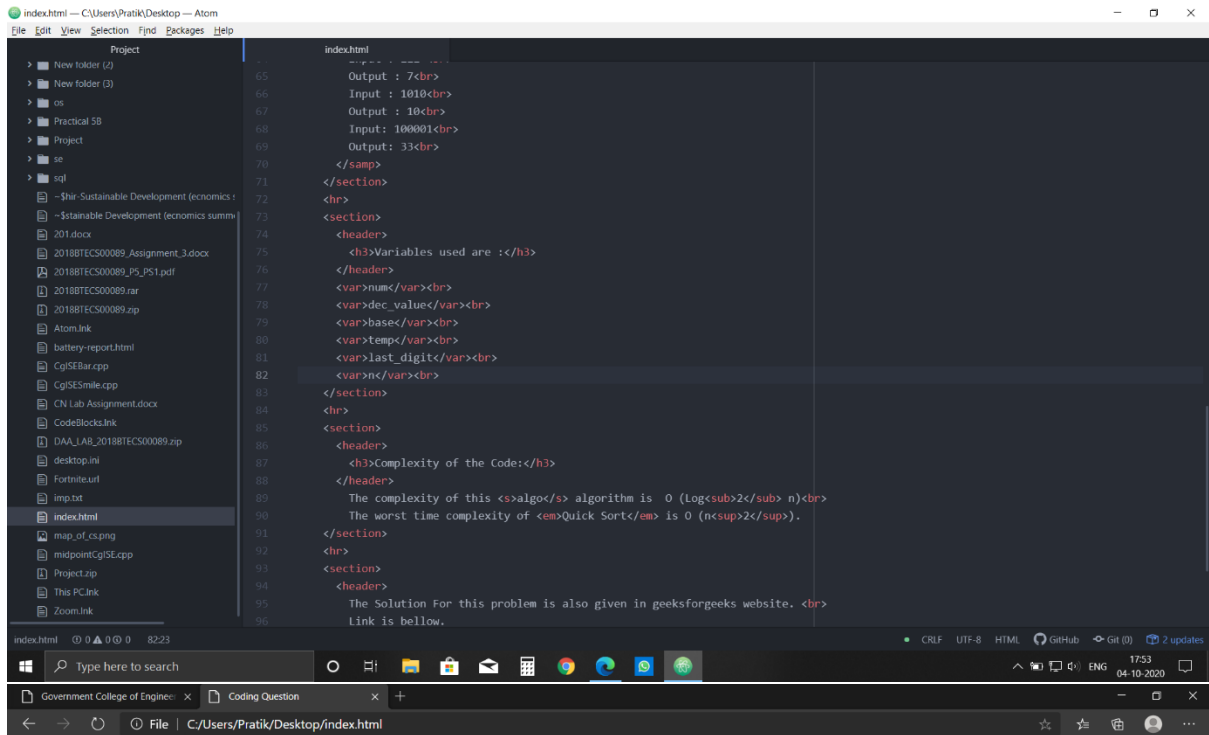
    return dec_value;
}

// Driver program to test above function
int main()
{
    int num = 10101001;

    cout << binaryToDecimal(num) << endl;
}
```

To compile use Ctrl + Enter on your device.





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        temp = temp / 10;

        dec_value += last_digit * base;

        base = base * 2;
    }

    return dec_value;
}

// Driver program to test above function
int main()
{
    int num = 10101001;

    cout << binaryToDecimal(num) << endl;
}
```

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Sample Input:



The screenshot shows a web browser window with two tabs: "Government College of Engineering" and "Coding Question". The address bar shows the file path "C:/Users/Pratik/Desktop/index.html". The main content area displays a C++ program for converting a binary number to its decimal equivalent. The code includes a function `binaryToDecimal` and a `main` function that tests it with the binary number 10101001. Below the code, there is a note about using Ctrl+Enter to compile on a device. The "Sample Input:" section shows three examples: 111 to 7, 1010 to 10, and 100001 to 33. The "Variables used are :" section lists `num`, `dec_value`, `base`, `temp`, `last_digit`, and `n`. The "Complexity of the Code:" section explains that the complexity is $O(\log_2 n)$ and provides a link to a solution on GeeksforGeeks. The Windows taskbar at the bottom shows the search bar, task view button, and several application icons, with the system clock indicating 17:54 on 04-10-2020.

```
    }
    return dec_value;
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int main()
{
    int num = 10101001;
    cout << binaryToDecimal(num) << endl;
}
```

To compile use Ctrl + Enter on your device.

Sample Input:

Input : 111
Output : 7
Input : 1010
Output : 10
Input : 100001
Output: 33

Variables used are :

`num`
`dec_value`
`base`
`temp`
`last_digit`
`n`

Complexity of the Code:

The complexity of this ~~size~~ algorithm is $O(\log_2 n)$
The worst time complexity of *Quick Sort* is $O(n^2)$.

The Solution For this problem is also given in geeksforgeeks website.
Link is below.
[geeksforgeeks solution](#)

Github link:

<https://github.com/sudhanshu457/2018BTECS00089.git>