

```
// If a user enters more than 10 digits the program will convert the binary number. In order to fix this i will
// have to limit numdigit variable to less than 11. With this fix the limit of digits will be 10.
```

```
#include <stdio.h>
#include <math.h>
```

```
int main (void)
```

```
{
    int i, numdigits, input, index = 0;

    printf("Enter a binary number of up to 10 digits (not including leading zeros):\n");
    scanf ("%d", &input);
    numdigits = (log10(input)) + 1;
    int values [numdigits];

    // store input in array
    for( i = 0; input != 0; ++i){
        values[i] = input % 10;
        input /= 10;
    }

    // print array back to user
    printf("The binary number you entered was:\n");

    for(i = numdigits - 1; i >= 0; --i){
        printf("%d", values[i]);
    }

    // convert binary to decimal
    for( i = 0; i < numdigits; ++i){
        index += values[i] * pow(2,i);
    }
    printf("\nThe decimal equivalent of tyhat number is: %d\n", index);
    return 0;
}
```