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Screenshots:

```c
#include "print_binary.h"
#include <stdio.h>
#include <string.h>
#include <stdlib.h>
void convert_uint16_number_to_binary_str(uint16_t num, char *cPtr) {
  int numCharacters = 0;
  int i = 0;
  int temp = num;
  while(temp > 0){
    temp /= 2;
    numCharacters++;

  }

  while(num > 0) {
    if(num % 2 == 0)
    {
      cPtr[numCharacters -i -1] = '0';
    }
    else{
        cPtr[numCharacters -i - 1] = '1';
      }
    // cPtr++;
    i++;
    num /= 2;
  }

   cPtr[numCharacters] = '\0';
}
void print_str_compact(uint16_t num, char *cPtr) {
  //compact no need _
  convert_uint16_number_to_binary_str(num, cPtr);
  printf("%s", cPtr);

}
void print_str_verbose(uint16_t num, char *cPtr_c, char *cPtr_v) {
  //Verbose needs _

    int numCharacters = 0;
    int i = 0;
    uint16_t temp = num;
    while(temp > 0){
        temp >>= 1;
        numCharacters++;
    }
    numCharacters += (numCharacters - 1) / 4;

```

```
47
48      while(num > 0) {
49          if ((i + 1) % 5 == 0) {
50              cPtr_v[numCharacters -i -1] = '_';
51          } else {
52              cPtr_v[numCharacters -i -1] = '0' + (num & 0b1);
53              num >>= 1;
54          }
55          i++;
56      }
57
58      cPtr_v[numCharacters] = '\0';
59
60    printf("ob%s", cPtr_v);
61
62  }
```

Results:

```
Testing the printout of binary numbers:
Compact display for 0x1234 is 1001000110100
Verbose display for 0x1234 is ob1_0010_0011_0100
Compact display for 0x5678 is 1010110011111000
Verbose display for 0x5678 is ob101_0110_0111_1000
Compact display for 0x9ABC is 1001101010111100
Verbose display for 0x9ABC is ob1001_1010_1011_1100
Compact display for 0xDEF0 is 1101111011110000
Verbose display for 0xDEF0 is ob1101_1110_1111_0000
```