

Experiment No. 1

Aim: Write a program to print the all even integer between 2-100 which are not divisible by both 8 & 10 also print all the numbers five terms per line

Theory:

1. Initialization:

Count keeps track of how many numbers are printed on the current line.

2. Iteration:

The loop starts at 2 and increments by 2 to only check even numbers.

3. Condition:

The condition `!(i % 8 == 0 && i % 10 == 0)` ensures the number is not divisible by both 8 and 10 simultaneously.

4. Formatting:

After every 5 numbers, a new line is printed using `printf("\n");`.

Program:

```
#include <stdio.h>
int main() {
    int count = 0;

    for (int i = 2; i <= 100; i += 2) {
        if (!(i % 8 == 0 && i % 10 == 0)) {
            printf("%d ", i);
            count++;

            if (count % 5 == 0) {
                printf("\n");
            }
        }
    }

    return 0;
}
```

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Output:

```
2 4 6 8 10
12 14 16 18 20
22 24 26 28 30
32 34 36 38 42
44 46 48 50 52
54 56 58 60 62
64 66 68 70 72
74 76 78 82 84
86 88 90 92 94
96 98 100

...Program finished with exit code 0
Press ENTER to exit console.□
```

Experiment No. 2

Aim: Add up and print the numbers divisible by both 8 & 10

Theory:

1. Condition:

($i \% 8 == 0$ && $i \% 10 == 0$): Checks if the number is divisible by both 8 and 10.

2. Output:

Each number is printed as it's found

The sum is accumulated in the sum variable and printed at the end.

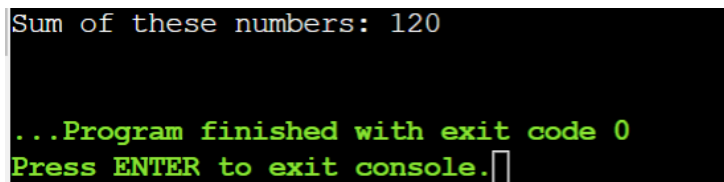
Program:

```
#include <stdio.h>
int main() {
    int sum = 0;

    printf("Numbers divisible by both 8 and 10: ");
    for (int i = 2; i <= 100; i++) {
        if (i % 8 == 0 && i % 10 == 0) {
            sum += i;
        }
    }

    printf("\nSum of these numbers: %d\n", sum);

    return 0;
}
```

Output:A screenshot of a terminal window with a black background. The first line shows the output 'Sum of these numbers: 120' in white text. The second line shows '...Program finished with exit code 0' in green text. The third line shows 'Press ENTER to exit console.' in green text, followed by a white cursor icon.

```
Sum of these numbers: 120
...Program finished with exit code 0
Press ENTER to exit console.
```

Experiment No. 3

Aim: Program to Find the sum of the digits of the number and also find the reverse of the number

Theory:**1. Input:**

The user enters a number, stored in num.

2. Logic:

A while loop is used to process each digit of the number.

The remainder of num % 10 gives the last digit.

Add the digit to sum and build reverse using multiplication and addition.

Divide num by 10 to remove the processed digit.

3. Output:

The sum of the digits is stored in sum.

The reversed number is stored in reverse.

Program:

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

```
int main() {  
    int num, original, digit, sum = 0, reverse = 0;  
  
    printf("Enter a number: ");  
    scanf("%d", &num);  
  
    original = num;  
    while (num > 0) {  
        digit = num % 10;  
        sum += digit;  
        reverse = reverse * 10 + digit;  
        num /= 10;  
    }  
  
    printf("Sum of the digits: %d\n", sum);  
    printf("Reverse of the number: %d\n", reverse);  
  
    return 0;  
}
```

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Output:

```
Enter a number: 42
Sum of the digits: 6
Reverse of the number: 24

...Program finished with exit code 0
Press ENTER to exit console.□
```