

What would be the output of:

```
#include <stdio.h>
int i = 6;
display(){
    i = 5;
}
int main(){
    display();
    printf("%d\n", i);
    return 0;
}
```

Write the following code using recursion:

```
#include <stdio.h>
int main(){
    int i;
    for (i = 0; i < 10; i++){
        printf("Hello\n");
    }
    return 0;
}
```

What would be the output of:

```
#include <stdio.h>
display(){
    printf("C\n");
    main();
}
int main(){
    printf("Hey\n");
    display();
    return 0;
}
```

1. Write a function to calculate area and perimeter of a rectangle.
2. Write a function to calculate area and circumference of a circle.
3. Write a function to calculate power of a number raised to other. E.g.- a^b .
4. Write a function to print prime factor of a number
5. Using recursion, write a function to know nth term of a Fibonacci series.

Nth term of Fibonacci series is

$$F(n) = F(n-1) + F(n-2)$$

$$F(0) = 0$$

$$F(1) = 1$$

$$F(2) = F(1) + F(0) = 1 + 0 = 1$$

$$F(3) = F(2) + F(1) = 1 + 1 = 2$$

$$F(4) = F(3) + F(2) = 2 + 1 = 3$$

6. Write a function to tell user if he/she is able to vote or not.

(Consider minimum age of voting to be 18.)

7. Print multiplication table of 12 using recursion.
8. Write a function to calculate power of a number raised to other (a^b) using recursion.

9. Write a function "perfect()" that determines if parameter number is a perfect number. Use this function in a program that determines and prints all the perfect numbers between 1 and 1000.

[An integer number is said to be "perfect number" if its factors, including 1 (but not the number itself), sum to the number. E.g., 6 is a perfect number because $6 = 1 + 2 + 3$].

10. Write a function to check if a number is even or not.

11. Write a function to check if a number is prime or not.