

Write a program to print the following pattern.

```
PROGRAMMER
PROGRAMME
PROGRAMM
PROGRAM
PROGRA
PROGR
PROG
PRO
PR
P
```

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

```
int main() {
    char str[20] = "PROGRAMMER";
    int i, j, len=0;

    // Calculate the length of the string
    for (i = 0; str[i] != '\0'; i++){
        len=len+1;
    }

    for(i = len; i > 0; i--){
        for(j = 0; j < i; j++){
            printf("%c", str[j]);
        }
        printf("\n"); // new line
    }
    return 0;
}
```

WAP to print even numbers from 101 to 200.

```
#include <stdio.h>

int main() {
    int num;

    printf("Even numbers from 101 to 200:\n");

    for (num = 102; num <= 200; num += 2) {
        printf("%d ", num);
    }

    return 0;
}
```

WAP to print the sum of the following harmonic series for a given value of n:

$$1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \dots + \frac{1}{n}$$

```
#include <stdio.h>
int main() {
    int n;
    double sum = 0.0;
    int i;
    printf("Enter the number of terms in the harmonic series: ");
    scanf("%d", &n);
    if (n > 0) {
        for (i = 1; i <= n; i++) {
            sum += 1.0 / i;
        }

        printf("The sum of the harmonic series up to %d terms is: %.2lf\n", n, sum);
    } else {
        printf("Please enter a positive integer for the number of terms.\n");
    }

    return 0;
}
```

WAP to print all prime numbers from 1 to 200.

```
#include <stdio.h>

int main() {
    int i, num, temp;
    printf("Prime numbers from 1 to 200:\n");
    for (num = 1; num <= 200; num++) {
        temp = 0; // Reset temp for each number

        for (i = 1; i <= num; i++) {
            if (num % i == 0) {
                temp++;
            }
        }

        if (temp == 2) {
            printf("%d ", num);
        }
    }

    return 0;
}
```