```c
#include <stdio.h>
int main() {

  int i, n;

  // initialize first and second terms
  int t1 = 0, t2 = 1;

  // initialize the next term (3rd term)
  int nextTerm = t1 + t2;

  // get no. of terms from user
  printf("Enter the number of terms: ");
  scanf("%d", &n);

  // print the first two terms t1 and t2
  printf("Fibonacci Series: %d, %d, ", t1, t2);

  // print 3rd to nth terms
  for (i = 3; i <= n; ++i) {
    printf("%d, ", nextTerm);
    t1 = t2;
    t2 = nextTerm;
    nextTerm = t1 + t2;
  }

  return 0;
}
```

Run Code

Output

```
Enter the number of terms: 10
Fibonacci Series: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34,
```

Let us suppose `n = 10`. First, we have printed the first two terms of the Fibonacci sequence before using a `for` loop to print the next `n` terms.

Let us see how the `for` loop works:

i	t1	t2	nextTerm
3	0	1	1
4	1	1	2
5	1	2	3
6	2	3	5
7	3	5	8
8	5	8	13
9	8	13	21
10	13	21	34

Fibonacci Sequence Up to a Certain Number

```c
#include <stdio.h>
int main() {
  int t1 = 0, t2 = 1, nextTerm = 0, n;
  printf("Enter a positive number: ");
  scanf("%d", &n);

  // displays the first two terms which is always 0 and 1
  printf("Fibonacci Series: %d, %d, ", t1, t2);
  nextTerm = t1 + t2;

  while (nextTerm <= n) {
    printf("%d, ", nextTerm);
    t1 = t2;
    t2 = nextTerm;
    nextTerm = t1 + t2;
  }

  return 0;
}
```

Run Code

Output

```
Enter a positive integer: 100
Fibonacci Series: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89,
```

In this program, we have used a `while` loop to print all the Fibonacci numbers up to `n`.

If `n` is not part of the Fibonacci sequence, we print the sequence up to the number that is closest to (and lesser than) `n`.

Suppose `n = 100`. First, we print the first two terms `t1 = 0` and `t2 = 1`.

Then the `while` loop prints the rest of the sequence using the `nextTerm` variable:

t1	t2	nextTerm	nextTerm <= n
0	1	1	`true`. Print `nextTerm`.
1	1	2	`true`. Print `nextTerm`.
1	2	3	`true`. Print `nextTerm`.
...	...	...	...
34	55	89	`true`. Print `nextTerm`.
55	89	144	`false`. Terminate Loop.

Related Examples

C Example

Print an Integer (Entered by the User)

C Example

Print Pyramids and Patterns

C Example

Display Factors of a Number

C Example

Display Characters from A to Z Using Loop