**Assignment(5/8/2025)**

### ✅ 1. **Print numbers from 1 to 100**

* **IPO:**
  + **Input:** None
  + **Process:** Loop from 1 to 100 and print each number
  + **Output:** Numbers from 1 to 100
* **Program:**

#include <stdio.h>

int main() {

for (int i = 1; i <= 100; i++)

printf("%d ", i);

return 0;

}

* **Sample Output:**

1 2 3 4 5 6 ... 100

### ✅ 2. **Print even numbers from 1 to 50**

* **IPO:**
  + **Input:** None
  + **Process:** Loop and print numbers divisible by 2
  + **Output:** Even numbers from 1 to 50
* **Program:**

#include <stdio.h>

int main() {

for (int i = 2; i <= 50; i += 2)

printf("%d ", i);

return 0;

}

* **Sample Output:**

2 4 6 8 10 ... 50

### ✅ 3. **Factorial of a number**

* **IPO:**
  + **Input:** A number n
  + **Process:** Multiply numbers from 1 to n
  + **Output:** Factorial of n
* **Program:**

#include <stdio.h>

int main() {

int n, fact = 1;

printf("Enter a number: ");

scanf("%d", &n);

for (int i = 1; i <= n; i++)

fact \*= i;

printf("Factorial = %d", fact);

return 0;

}

* **Sample Output:**

Enter a number: 5

Factorial = 120

### ✅ 4. **Sum of digits of a number**

* **IPO:**
  + **Input:** A number
  + **Process:** Extract digits using %10 and sum them
  + **Output:** Sum of digits
* **Program:**

#include <stdio.h>

int main() {

int n, sum = 0;

printf("Enter a number: ");

scanf("%d", &n);

while (n != 0) {

sum += n % 10;

n /= 10;

}

printf("Sum of digits = %d", sum);

return 0;

}

* **Sample Output:**

Enter a number: 1234

Sum of digits = 10

### ✅ 5. **Reverse a number**

* **IPO:**
  + **Input:** A number
  + **Process:** Extract digits and reverse using % and /
  + **Output:** Reversed number
* **Program:**

#include <stdio.h>

int main() {

int n, rev = 0;

printf("Enter a number: ");

scanf("%d", &n);

while (n != 0) {

rev = rev \* 10 + n % 10;

n /= 10;

}

printf("Reversed number = %d", rev);

return 0;

}

* **Sample Output:**

Enter a number: 1234

Reversed number = 4321

### ✅ 6. **Check palindrome**

* **IPO:**
  + **Input:** A number
  + **Process:** Reverse number and compare with original
  + **Output:** Palindrome or Not
* **Program:**

#include <stdio.h>

int main() {

int n, temp, rev = 0;

printf("Enter a number: ");

scanf("%d", &n);

temp = n;

while (n != 0) {

rev = rev \* 10 + n % 10;

n /= 10;

}

if (temp == rev)

printf("Palindrome");

else

printf("Not a palindrome");

return 0;

}

* **Sample Output:**

Enter a number: 121

Palindrome

### ✅ 7. **Multiplication table of a number**

* **IPO:**
  + **Input:** A number
  + **Process:** Multiply from 1 to 10
  + **Output:** Table of the number
* **Program:**

#include <stdio.h>

int main() {

int n;

printf("Enter a number: ");

scanf("%d", &n);

for (int i = 1; i <= 10; i++)

printf("%d x %d = %d\n", n, i, n \* i);

return 0;

}

* **Sample Output:**

Enter a number: 6

6 x 1 = 6

6 x 2 = 12

...

6 x 10 = 60

### ✅ 8. **Count number of digits**

* **IPO:**
  + **Input:** A number
  + **Process:** Divide number by 10 until 0, count steps
  + **Output:** Total digits
* **Program:**

#include <stdio.h>

int main() {

int n, count = 0;

printf("Enter a number: ");

scanf("%d", &n);

do {

count++;

n /= 10;

} while (n != 0);

printf("Number of digits = %d", count);

return 0;

}

* **Sample Output:**

Enter a number: 98765

Number of digits = 5

### ✅ 9. **Fibonacci series up to n terms**

* **IPO:**
  + **Input:** Number of terms n
  + **Process:** Generate Fibonacci sequence
  + **Output:** Fibonacci series
* **Program:**

#include <stdio.h>

int main() {

int n, a = 0, b = 1, c;

printf("Enter number of terms: ");

scanf("%d", &n);

printf("Fibonacci Series: ");

for (int i = 1; i <= n; i++) {

printf("%d ", a);

c = a + b;

a = b;

b = c;

}

return 0;

}

* **Sample Output:**

Enter number of terms: 7

Fibonacci Series: 0 1 1 2 3 5 8

### ✅ 10. **Sum of first** n **natural numbers**

* **IPO:**
  + **Input:** A number n
  + **Process:** Add numbers from 1 to n
  + **Output:** Sum
* **Program:**

#include <stdio.h>

int main() {

int n, sum = 0;

printf("Enter a number: ");

scanf("%d", &n);

for (int i = 1; i <= n; i++)

sum += i;

printf("Sum = %d", sum);

return 0;

}

* **Sample Output:**

Enter a number: 10

Sum = 55