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 1 to 100

#include <stdio.h>

int main() {

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

printf("%d ", i);

}

return 0;

}

**Output:**  
1 2 3 ... 100

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

**IPO:**

* Input: None
* Process: Loop from 1 to 50 and check even numbers
* Output: Even numbers

#include <stdio.h>

int main() {

for(int i = 1; i <= 50; i++) {

if(i % 2 == 0)

printf("%d ", i);

}

return 0;

}

**Output:**  
2 4 6 ... 50

### 3. **Factorial of a number**

**IPO:**

* Input: A number n
* Process: Multiply from 1 to n
* Output: Factorial value

#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 Input:** 5  
**Output:** Factorial = 120

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

**IPO:**

* Input: A number n
* Process: Add each digit
* Output: Sum of digits

#include <stdio.h>

int main() {

int n, sum = 0, digit;

printf("Enter a number: ");

scanf("%d", &n);

while(n > 0) {

digit = n % 10;

sum += digit;

n /= 10;

}

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

return 0;

}

**Sample Input:** 123  
**Output:** Sum of digits = 6

### 5. **Reverse a number**

**IPO:**

* Input: A number
* Process: Reverse using mod and division
* Output: Reversed number

#include <stdio.h>

int main() {

int n, rev = 0, digit;

printf("Enter a number: ");

scanf("%d", &n);

while(n != 0) {

digit = n % 10;

rev = rev \* 10 + digit;

n /= 10;

}

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

return 0;

}

**Sample Input:** 123  
**Output:** Reversed number = 321

### 6. **Check if number is palindrome**

**IPO:**

* Input: A number
* Process: Reverse and compare
* Output: Palindrome or not

#include <stdio.h>

int main() {

int n, rev = 0, digit, temp;

printf("Enter a number: ");

scanf("%d", &n);

temp = n;

while(n != 0) {

digit = n % 10;

rev = rev \* 10 + digit;

n /= 10;

}

if(temp == rev)

printf("Palindrome");

else

printf("Not a palindrome");

return 0;

}

**Sample Input:** 121  
**Output:** Palindrome

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

**IPO:**

* Input: Number n
* Process: Multiply n from 1 to 10
* Output: Multiplication table

#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 Input:** 5  
**Output:**

5 x 1 = 5

5 x 2 = 10

...

5 x 10 = 50

### 8. **Count number of digits in a number**

**IPO:**

* Input: A number
* Process: Divide by 10 until 0
* Output: Digit count

#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 Input:** 4567  
**Output:** Number of digits = 4

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

**IPO:**

* Input: Number of terms n
* Process: Add last two terms repeatedly
* Output: Fibonacci sequence

#include <stdio.h>

int main() {

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

printf("Enter number of terms: ");

scanf("%d", &n);

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

printf("%d ", a);

c = a + b;

a = b;

b = c;

}

return 0;

}

**Sample Input:** 5  
**Output:** 0 1 1 2 3

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

**IPO:**

* Input: Number n
* Process: Sum from 1 to n
* Output: Total sum

#include <stdio.h>

int main() {

int n, sum = 0;

printf("Enter n: ");

scanf("%d", &n);

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

sum += i;

}

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

return 0;

}

**Sample Input:** 10  
**Output:** Sum = 55

Thank you