TASK 5:

main.c

```c
#include <stdio.h>

void swap(int *a, int *b) {
    int temp = *a;
    *a = *b;
    *b = temp;
}

int main() {
    int x = 10, y = 20;

    printf("Before swap: x = %d, y = %d\n", x, y);

    swap(&x, &y);

    printf("After swap: x = %d, y = %d\n", x, y);

    return 0;
}
```

```
Before swap: x = 10, y = 20
After swap: x = 20, y = 10


...Program finished with exit code 0
Press ENTER to exit console.
```

TASK 6:

main.c

```c
#include <stdio.h>

void calculate(int a, int b, int *sum, float *avg) {
    *sum = a + b;
    *avg = (float)(*sum) / 2;
}

int main() {
    int num1 = 8, num2 = 12;
    int sum;
    float avg;

    calculate(num1, num2, &sum, &avg);

    printf("Sum = %d\n", sum);
    printf("Average = %.2f\n", avg);

    return 0;
}
```

```
Sum = 20
Average = 10.00


...Program finished with exit code 0
Press ENTER to exit console.
```

TASK 7:

main.c

```c
#include <stdio.h>

int main() {
    int *ptr = NULL;

    if (ptr == NULL)
        printf("Pointer is NULL - it doesn't reference any valid memory.\n");
    else
        printf("Pointer points to a valid memory location.\n");

    return 0;
}
```

```
Pointer is NULL - it doesn't reference any valid memory
.


...Program finished with exit code 0
Press ENTER to exit console.
```

TASK 8:

main.c

```c
#include <stdio.h>

int main() {
    int i = 25;
    float f = 3.14;
    char c = 'A';
    void *ptr;

    ptr = &i;
    printf("Integer value: %d\n", *(int *)ptr);


    ptr = &f;
    printf("Float value: %.2f\n", *(float *)ptr);

    ptr = &c;
    printf("Character value: %c\n", *(char *)ptr);

    return 0;
}
```

```
Integer value: 25
Float value: 3.14
Character value: A


...Program finished with exit code 0
Press ENTER to exit console.
```

TASK 9:

main.c

```c
#include <stdio.h>

int add(int a, int b) { return a + b; }
int subtract(int a, int b) { return a - b; }
int multiply(int a, int b) { return a * b; }
float divide(int a, int b) { return (b != 0) ? (float)a / b : 0; }

int main() {
    int choice, a, b;
    printf("Enter two numbers: ");
    scanf("%d %d", &a, &b);

    printf("Choose operation:\n1. Add\n2. Subtract\n3. Multiply\n4. Divide\n");
    scanf("%d", &choice);

    void *func;

    switch (choice) {
        case 1:
            printf("Result = %d\n", ((int (*)(int, int))add)(a, b));
            break;
        case 2:
            printf("Result = %d\n", ((int (*)(int, int))subtract)(a, b));
            break;
        case 3:
            printf("Result = %d\n", ((int (*)(int, int))multiply)(a, b));
            break;
        case 4:
            printf("Result = %.2f\n", divide(a, b));
            break;
        default:
            printf("Invalid choice!\n");
    }
```

```
Integer value: 25
Float value: 3.14
Character value: A


...Program finished with exit code 0
Press ENTER to exit console.
```

TASK 10:

main.c

```c
#include <stdio.h>

float average(int a, int b, int c) {
    return (a + b + c) / 3.0;
}
int main() {
    int n1 = 5, n2 = 10, n3 = 15;
    float result;

    result = average(n1, n2, n3);

    printf("Average of %d, %d, %d is: %.2f\n", n1, n2, n3, result);

    return 0;
}
```

```
Average of 5, 10, 15 is: 10.00


...Program finished with exit code 0
Press ENTER to exit console.
```