

1. myheader.h (Custom Header File)

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PRACTICAL:5

1. Write a program to demonstrate file inclusion using #include user's own header file.

```
#ifndef MYHEADER H
#define MYHEADER H
// Function prototype
int add(int a, int b);
#endif
2. myheader.c (Header File Implementation)
#include "myheader.h"
// Function definition
int add(int a, int b) {
  return a + b;
3. main.c (Main Program)
#include <stdio.h>
#include "myheader.h" // Including the custom header file
int main() {
  int num1, num2, sum;
  printf("Enter two numbers: ");
  scanf("%d %d", &num1, &num2);
  // Calling the function from the custom header file
  sum = add(num1, num2);
```

printf("The sum of %d and %d is %d\n", num1, num2, sum);





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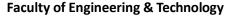
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```
return 0;
}
OUTPUT:
Enter two numbers: 5 10
The sum of 5 and 10 is 15
```

2. Define a macro for a constant value and use it to calculate the perimeter of a rectangle.

```
CODE:
```

```
#include <stdio.h>
// Define a macro for a constant value (2 for the perimeter formula)
#define MULTIPLIER 2
int main() {
  int length, width, perimeter;
  // Input the length and width of the rectangle
  printf("Enter the length of the rectangle: ");
  scanf("%d", &length);
  printf("Enter the width of the rectangle: ");
  scanf("%d", &width);
  // Calculate the perimeter using the macro
  perimeter = MULTIPLIER * (length + width);
  // Output the result
  printf("The perimeter of the rectangle is: %d\n", perimeter);
  return 0;
}
```



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OUTPUT:

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```
Output

Enter the length of the rectangle: 3
Enter the width of the rectangle: 2
The perimeter of the rectangle is: 10

=== Code Execution Successful ===
```

3. Write a program to calculate the square of a number using a macro.

```
CODE:
```

```
#include <stdio.h>
// Define a macro to calculate the square of a number
#define SQUARE(x) ((x) * (x))
int main() {
  int number, result;
  // Input the number
  printf("Enter a number: ");
  scanf("%d", &number);
  // Calculate the square using the macro
  result = SQUARE(number);
  // Output the result
  printf("The square of %d is: %d\n", number, result);
  return 0;
}
OUTPUT:
  Output
```

```
Enter a number: 2
The square of 2 is: 4
=== Code Execution Successful ===
```



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4. Write a program to include different code sections based on a macro value.

```
CODE:
#include <stdio.h>
// Define a macro to control the code sections
#define MODE 1 // Change this value to 0 or 1 to include different code sections
int main() {
  #if MODE == 1
    // Code section for MODE 1
    printf("MODE is set to 1: Executing code for MODE 1.\n");
    printf("This section performs Task A.\n");
  #elif MODE == 0
    // Code section for MODE 0
    printf("MODE is set to 0: Executing code for MODE 0.\n");
    printf("This section performs Task B.\n");
  #else
    // Code section for invalid MODE
    printf("Invalid MODE value. Please set MODE to 0 or 1.\n");
  #endif
  return 0;
}
OUTPUT:
  Output
MODE is set to 1: Executing code for MODE 1.
This section performs Task A.
=== Code Execution Successful ===
```