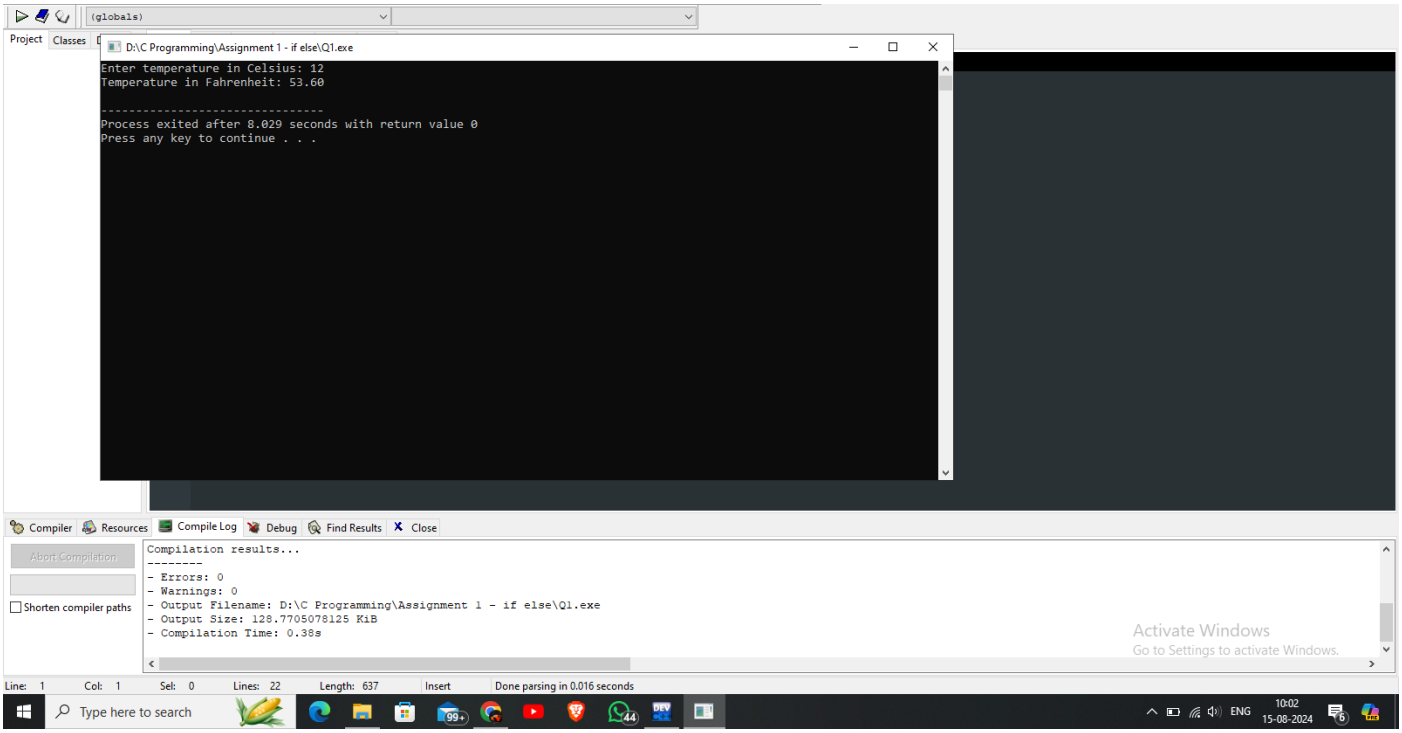
Assignment 1

Q1. Finding F from C (temp)

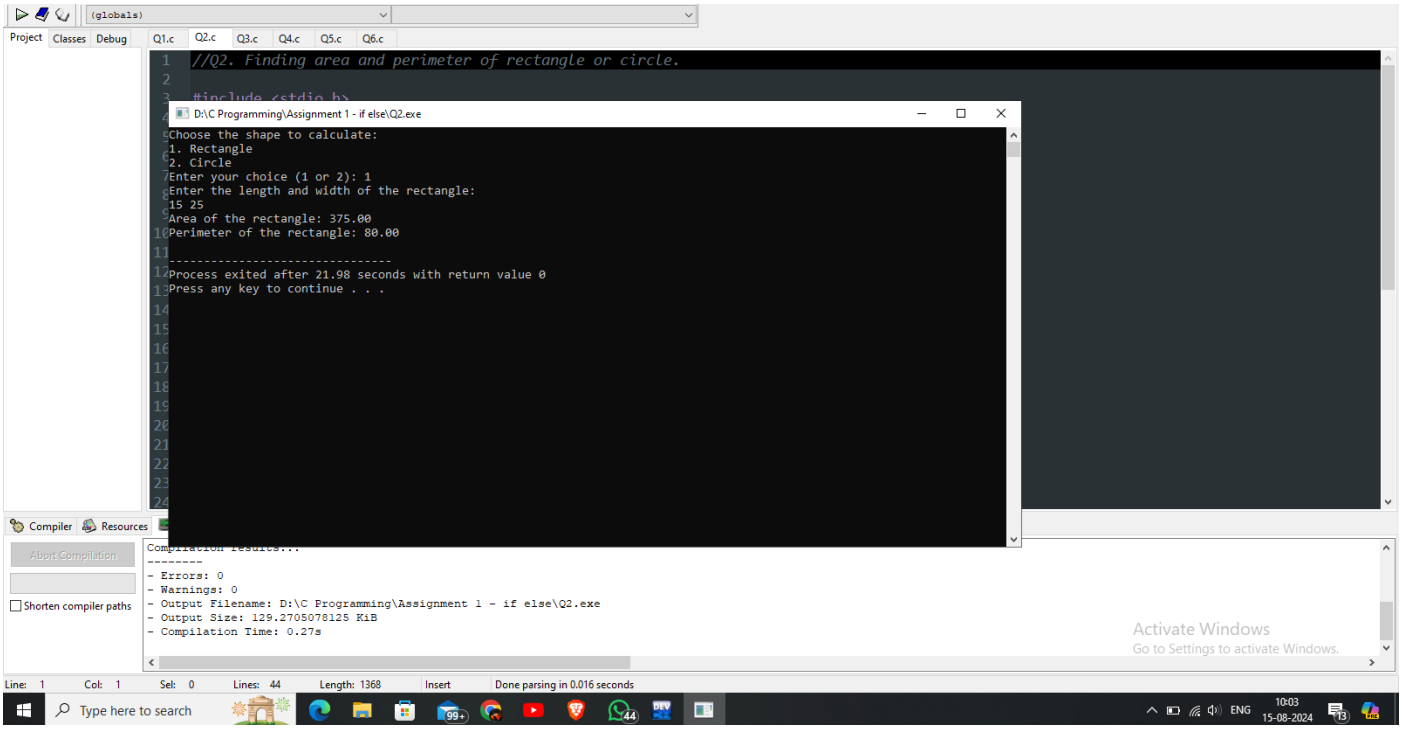
```
#include <stdio.h>
int main() {
   float celsius, fahrenheit;

   // Input: Accept temperature in Celsius from the user
   printf("Enter temperature in Celsius: ");
   scanf("%f", &celsius);

   // Convert Celsius to Fahrenheit
   if (celsius >= -273.15) {  // Check if the input temperature is above absolute zero
      fahrenheit = (celsius * 9 / 5) + 32;
      printf("Temperature in Fahrenheit: %.2f\n", fahrenheit);
   } else {
      // If the temperature is below absolute zero
      printf("Invalid temperature! Below absolute zero.\n");
   }

   return 0;
}
```

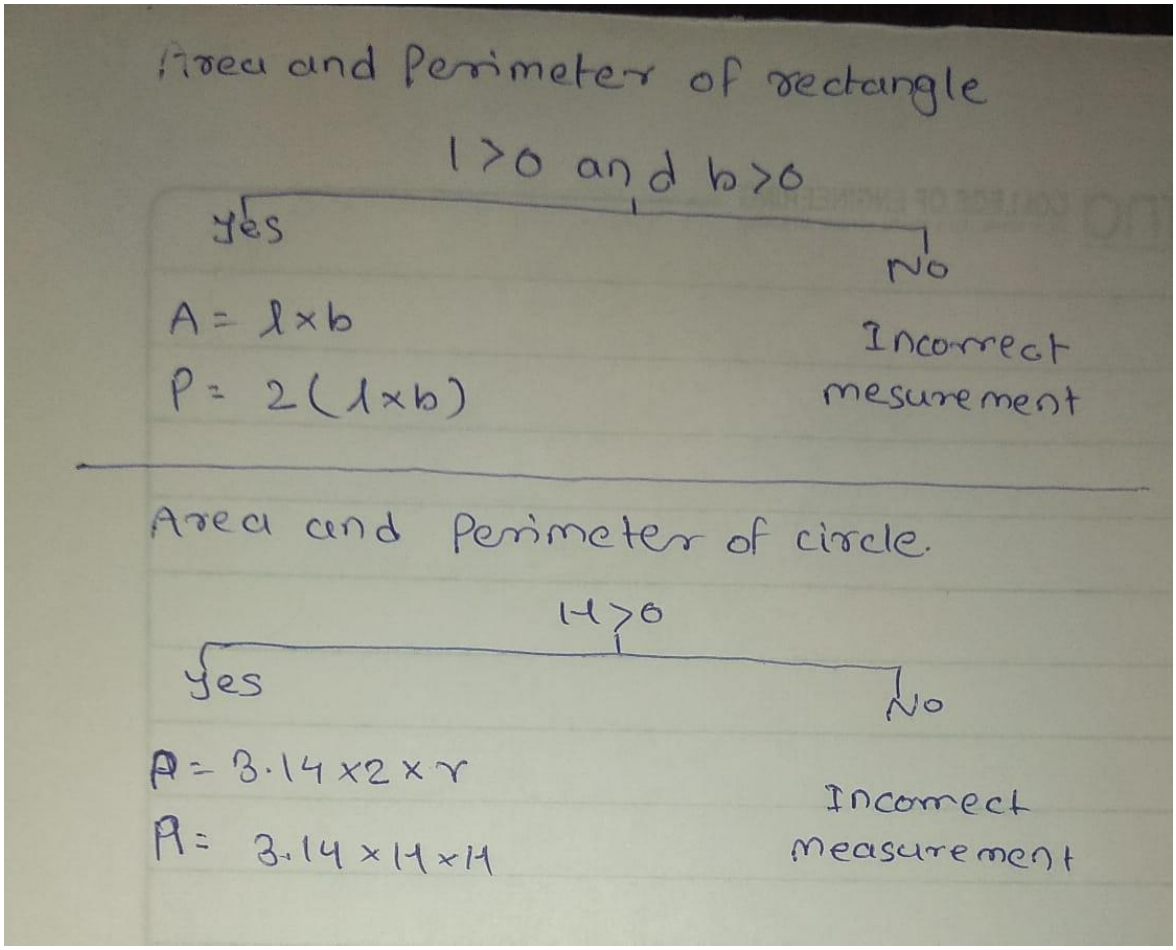


Q2. Finding area and perimeter of rectangle or circle.

```
#include <stdio.h>
#include <math.h>  // For the M_PI constant if needed

int main() {
    int choice;
    float length, width, radius;
    float area, perimeter, circumference;

    // Display menu to the user
    printf("Choose the shape to calculate:\n");
    printf("1. Rectangle\n");
    printf("2. Circle\n");
    printf("Enter your choice (1 or 2): ");
    scanf("%d", &choice);
```

```
    // Process based on user choice
    if (choice == 1) {
        // Rectangle
        printf("Enter the length and width of the rectangle:\n");
        scanf("%f %f", &length, &width);

        area = length * width;
        perimeter = 2 * (length + width);

        printf("Area of the rectangle: %.2f\n", area);
        printf("Perimeter of the rectangle: %.2f\n", perimeter);
    } else if (choice == 2) {
        // Circle
        printf("Enter the radius of the circle:\n");
        scanf("%f", &radius);

        area = M_PI * radius * radius;          // Use M_PI from math.h for ï€
        circumference = 2 * M_PI * radius;

        printf("Area of the circle: %.2f\n", area);
        printf("Circumference of the circle: %.2f\n", circumference);
    } else {
        printf("Invalid choice. Please enter 1 for Rectangle or 2 for Circle.\n");
    }

    return 0;
}
```

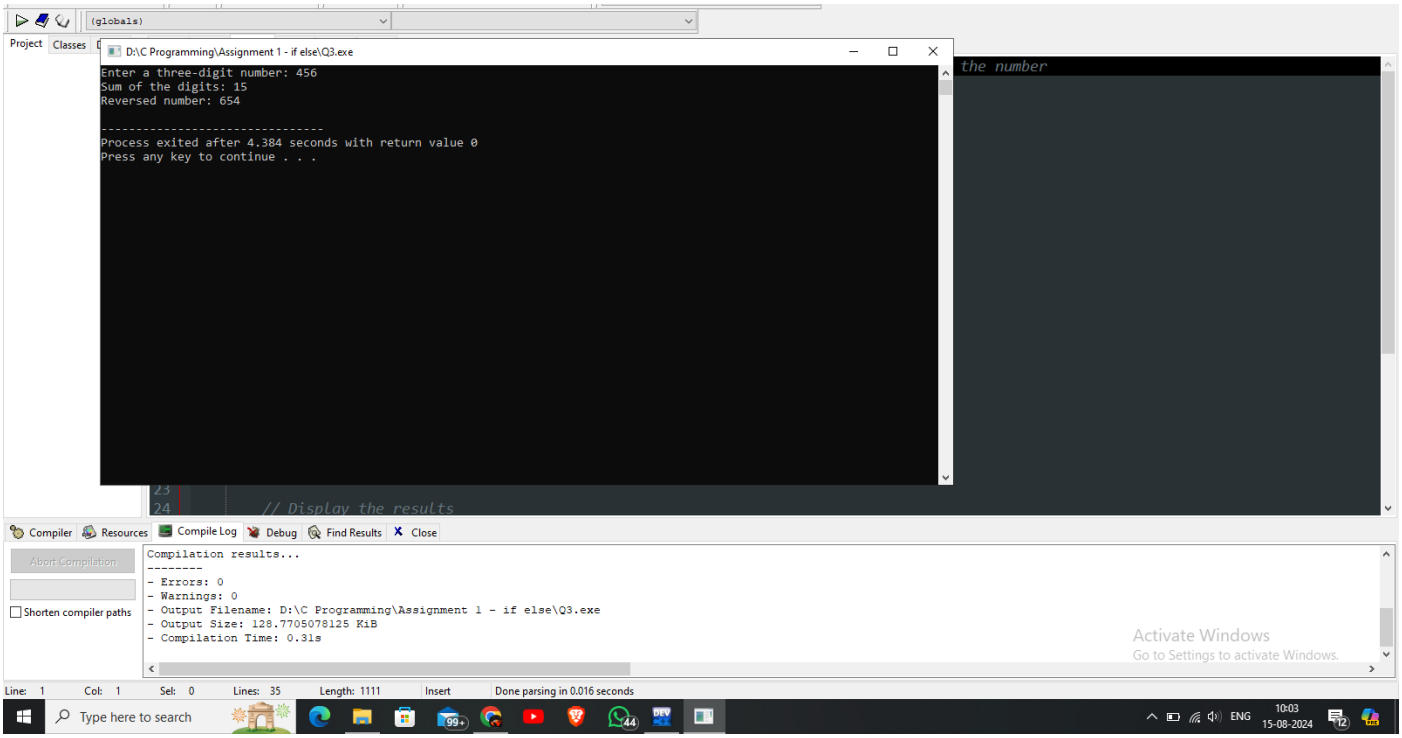

//Q2. Finding area and perimeter of rectangle or circle.
#include <stdio.h>
D:\C Programming\Assignment 1 - if else\Q2.exe
Choose the shape to calculate:
1. Rectangle
2. Circle
Enter your choice (1 or 2): 1
Enter the length and width of the rectangle:
15 25
Area of the rectangle: 375.00
Perimeter of the rectangle: 80.00
Process exited after 21.98 seconds with return value 0
Press any key to continue . . .
Compilation results...
- Errors: 0
- Warnings: 0
- Output Filename: D:\C Programming\Assignment 1 - if else\Q2.exe
- Output Size: 129.2705078125 KiB
- Compilation Time: 0.27s
Activate Windows
Go to Settings to activate Windows.

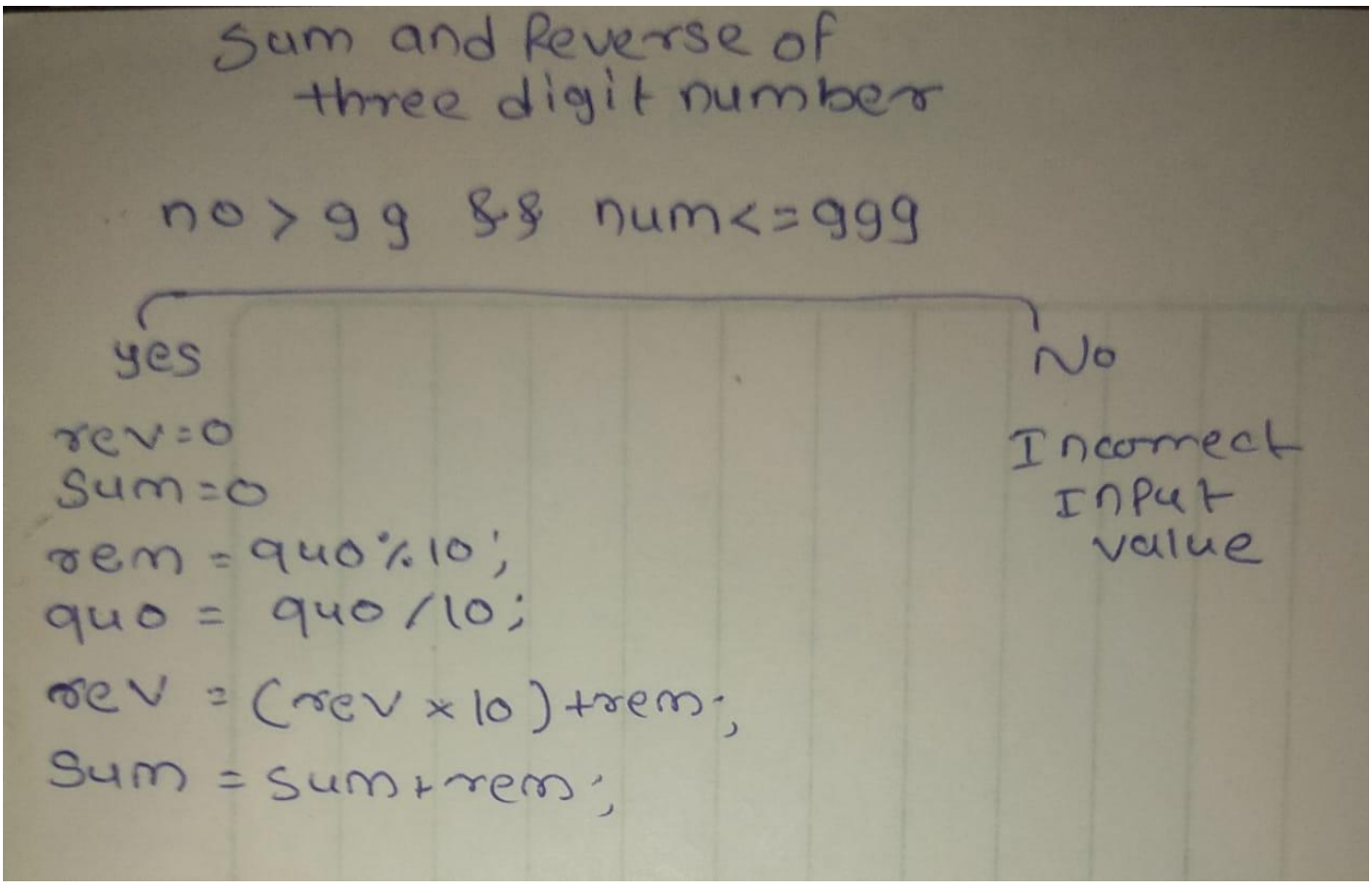

Area and Perimeter of rectangle
l>0 and b>0
yes
No
A = l×b
P = 2(l×b)
Incorrect mesurement
Area and Perimeter of circle.
r>0
yes
No
A = 3.14×2×r
P = 3.14×r×r
Incorrect measurement

Q3. Accept a 3 digit number from user and find the sum of the digits and also reverse the number.

```
#include <stdio.h>

int main() {
   int num, digit1, digit2, digit3, sum, reversedNum;

   // Accept a three-digit number from the user
   printf("Enter a three-digit number: ");
   scanf("%d", &num);

   // Check if the number is actually a three-digit number
   if (num >= 100 && num <= 999) {
      // Extract the digits of the number
      digit1 = num / 100;       // First digit
      digit2 = (num / 10) % 10;  // Second digit
      digit3 = num % 10;        // Third digit

      // Calculate the sum of the digits
      sum = digit1 + digit2 + digit3;

      // Reverse the number
      reversedNum = digit3 * 100 + digit2 * 10 + digit1;

      // Display the results
      printf("Sum of the digits: %d\n", sum);
      printf("Reversed number: %d\n", reversedNum);
   } else {
      // If the number is not three digits, display an error message
      printf("Error: Please enter a three-digit number.\n");
   }
```

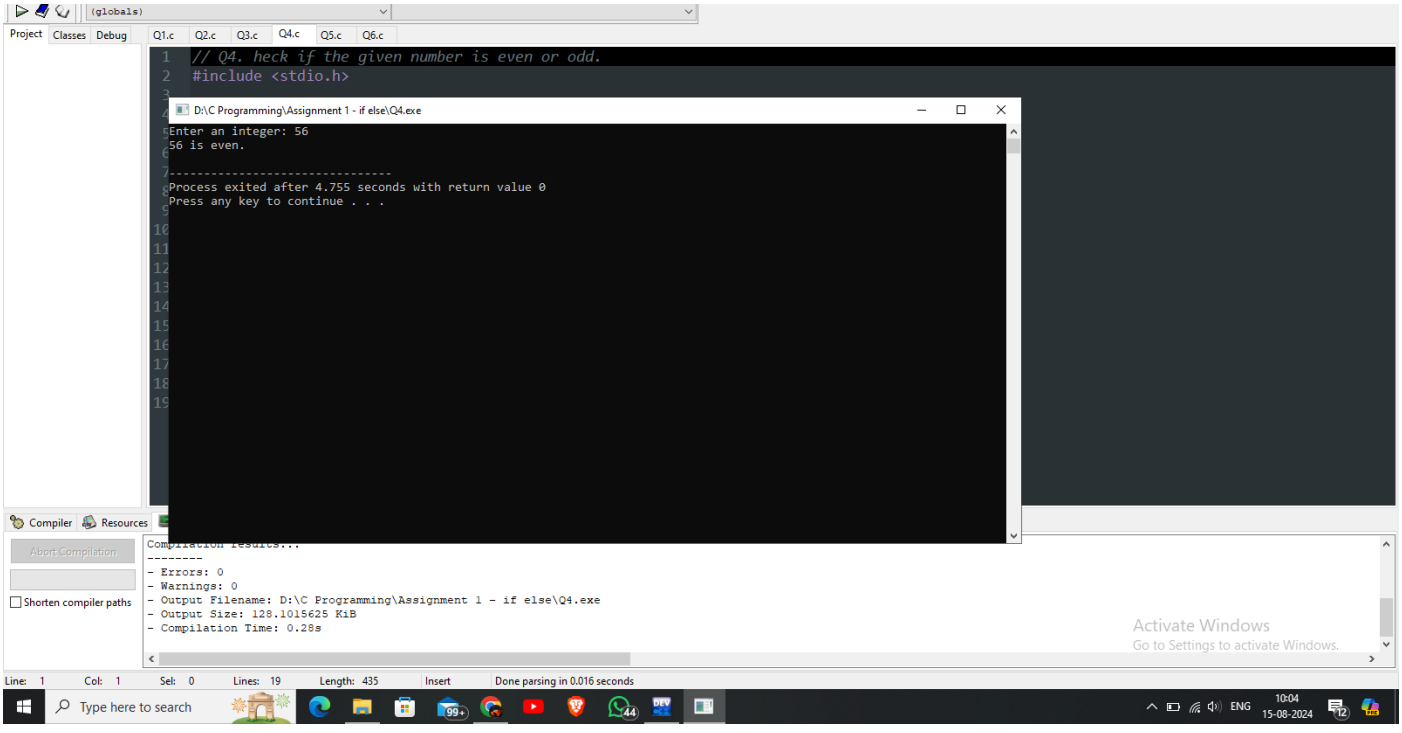
```
    return 0;
}
```

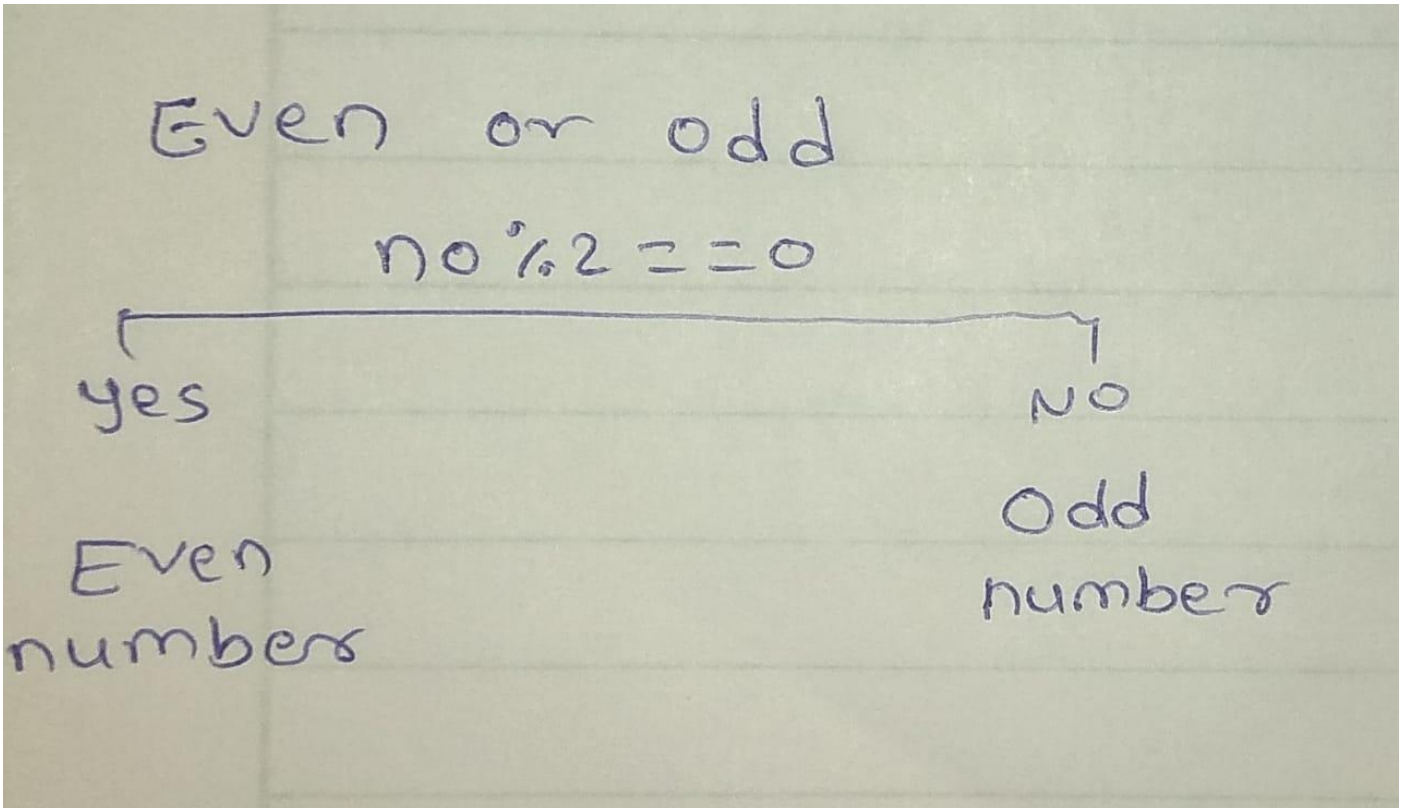

D:\C Programming\Assignment 1 - if else\Q3.exe
Enter a three-digit number: 456
Sum of the digits: 15
Reversed number: 654
Process exited after 4.384 seconds with return value 0
Press any key to continue . . .
the number
// Display the results
Compilation results...
- Errors: 0
- Warnings: 0
- Output Filename: D:\C Programming\Assignment 1 - if else\Q3.exe
- Output Size: 128.7705078125 KiB
- Compilation Time: 0.31s
Activate Windows
Go to Settings to activate Windows.


Sum and Reverse of three digit number
no > 99 && num <= 999
yes
No
rev=0
Sum=0
rem = num%10;
num = num/10;
rev = (rev*10)+rem;
Sum = Sum+rem;
Incorrect Input value

Q4. heck if the given number is even or odd.

```
#include <stdio.h>

int main() {
    int number;

    // Input: Accept a number from the user
    printf("Enter an integer: ");
    scanf("%d", &number);

    // Check if the number is even or odd using the modulus operator
    if (number % 2 == 0) {
        printf("%d is even.\n", number);
    } else {
        printf("%d is odd.\n", number);
    }

    return 0;
}
```

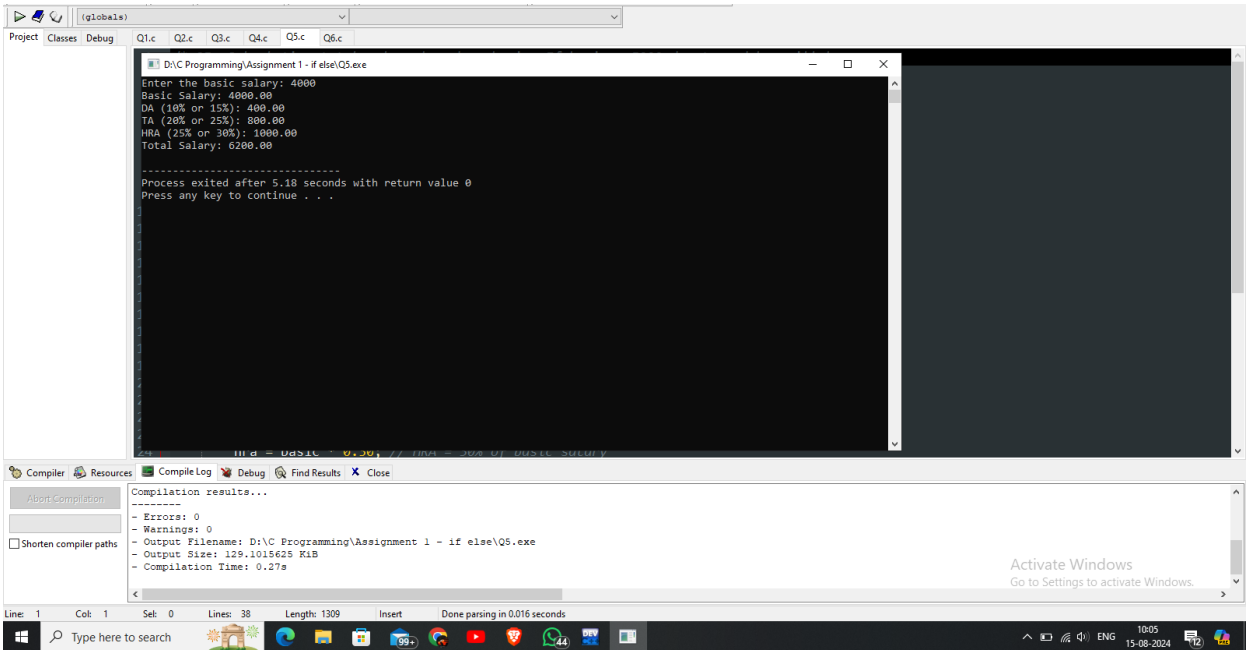


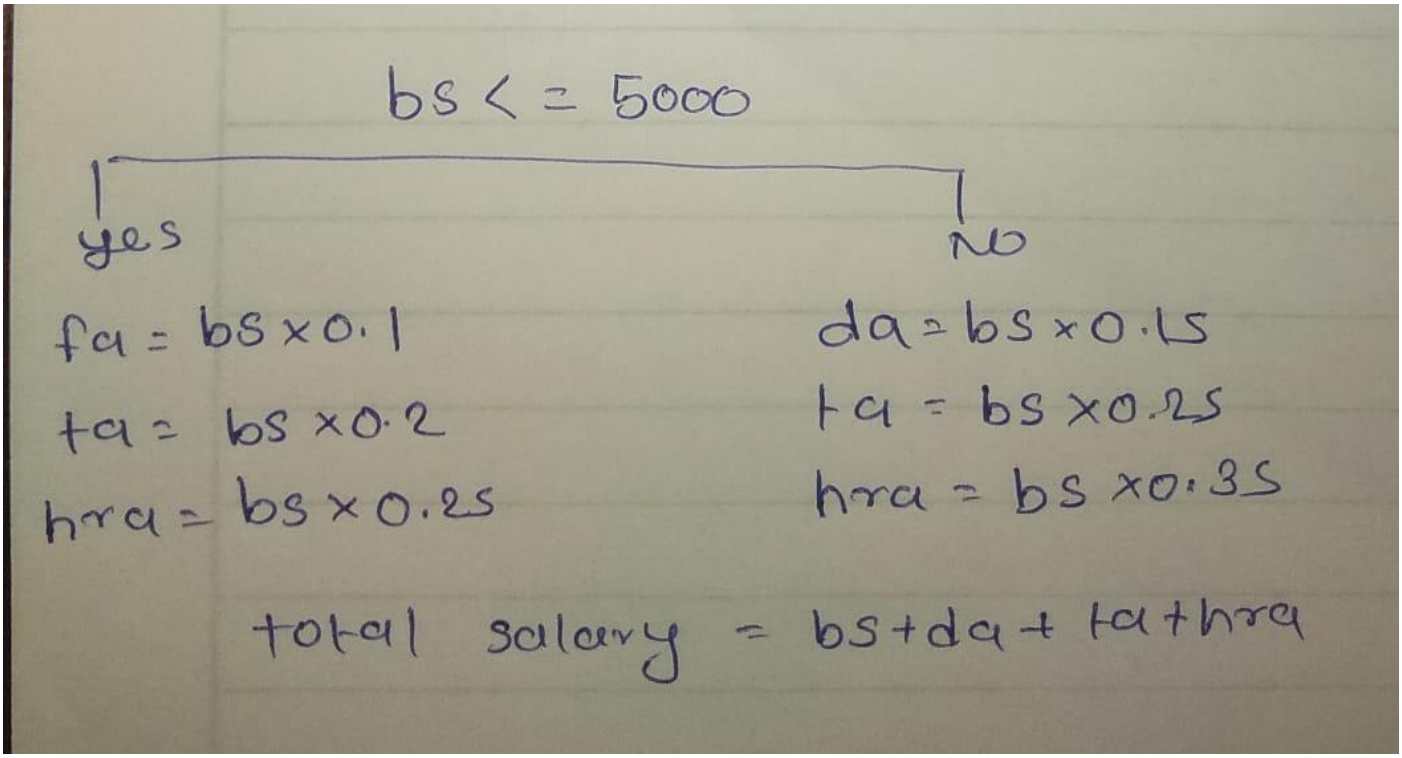


Q5. Calculating total salary based on basic. If basic <=5000 da, ta and hra will be 10%,20% and 25% respectively otherwise da, ta and hra will be 15%,25% and 30% respectively.

```
#include <stdio.h>

int main() {
   float basic, da, ta, hra, totalSalary;

   // Input: Accept the basic salary from the user
   printf("Enter the basic salary: ");
   scanf("%f", &basic);

   // Calculate allowances based on the basic salary
   if (basic <= 5000) {
      // For basic salary <= 5000
      da = basic * 0.10;  // DA = 10% of basic salary
```

```
        ta = basic * 0.20;  // TA = 20% of basic salary
        hra = basic * 0.25; // HRA = 25% of basic salary
    } else {
        // For basic salary > 5000
        da = basic * 0.15;  // DA = 15% of basic salary
        ta = basic * 0.25;  // TA = 25% of basic salary
        hra = basic * 0.30; // HRA = 30% of basic salary
    }

    // Calculate total salary
    totalSalary = basic + da + ta + hra;

    // Output: Display the calculated allowances and total salary
    printf("Basic Salary: %.2f\n", basic);
    printf("DA (10%% or 15%%): %.2f\n", da);
    printf("TA (20%% or 25%%): %.2f\n", ta);
    printf("HRA (25%% or 30%%): %.2f\n", hra);
    printf("Total Salary: %.2f\n", totalSalary);

    return 0;
}
```

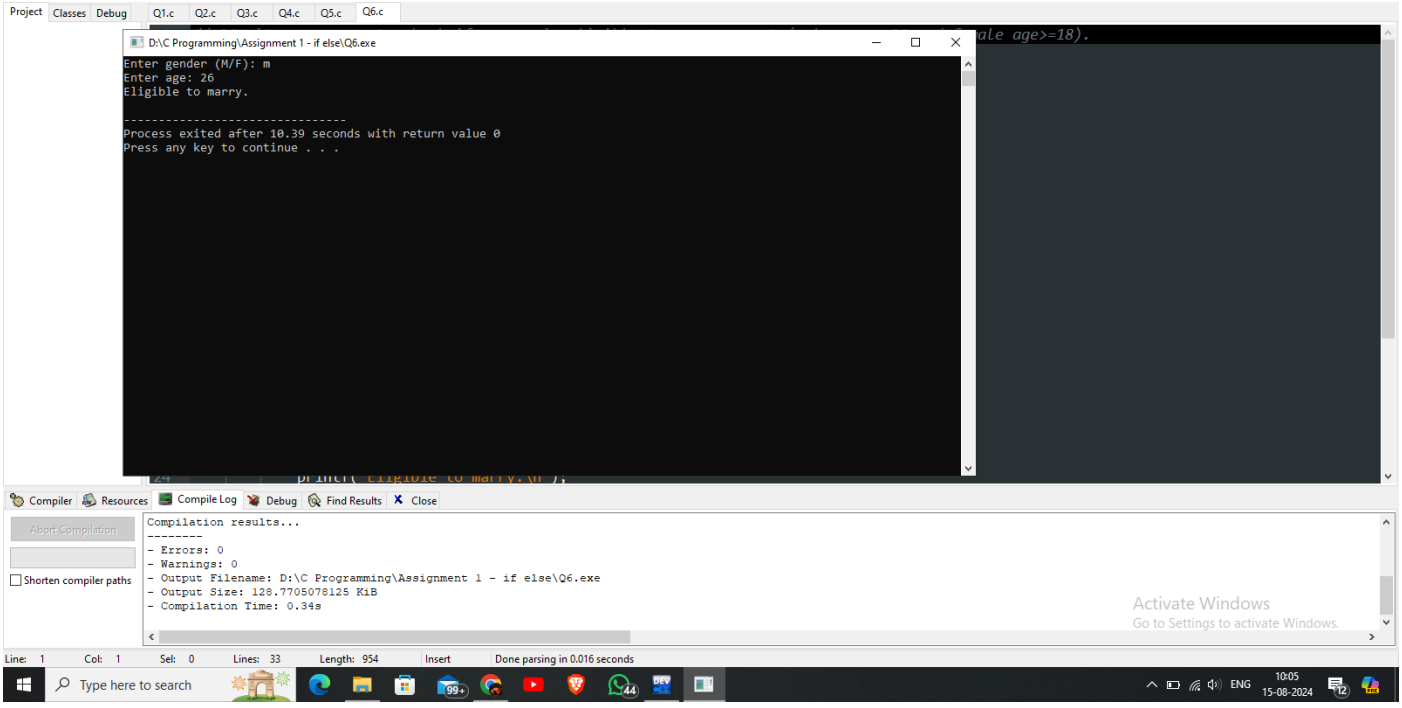


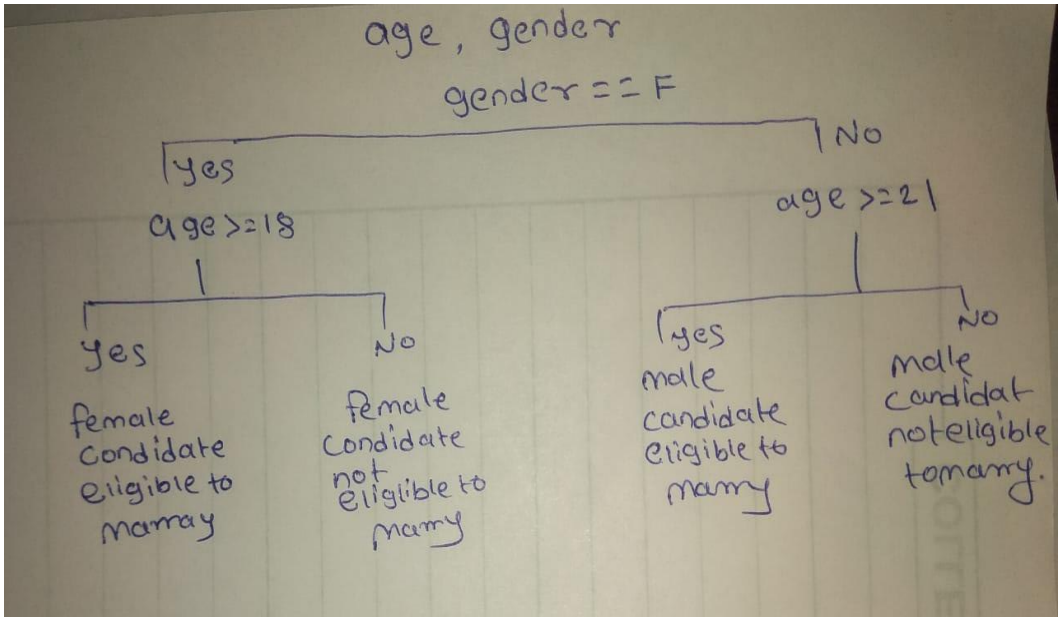


Q6. Write a program to check if person is eligible to marry or not (male age >=21 and female age>=18).

```
#include <stdio.h>

int main() {
   char gender;
   int age;

   // Input: Accept gender and age from the user
   printf("Enter gender (M/F): ");
   scanf(" %c", &gender); // Note the space before %c to consume any trailing newline
   printf("Enter age: ");
   scanf("%d", &age);

   // Check eligibility based on gender and age
   if (gender == 'M' || gender == 'm') {
      if (age >= 21) {
```

```
            printf("Eligible to marry.\n");
        } else {
            printf("Not eligible to marry.\n");
        }
    } else if (gender == 'F' || gender == 'f') {
        if (age >= 18) {
            printf("Eligible to marry.\n");
        } else {
            printf("Not eligible to marry.\n");
        }
    } else {
        printf("Invalid gender input. Please enter M or F.\n");
    }

    return 0;
}
```




age, gender
gender == F
yes
No
age >=18
age >=21
yes
No
yes
No
female condidate eligible to marray
female condidate not eligible to marry
male candidate eligible to marry
male candidat not eligible to marry.