Practical File
Of

Course Code: CSEG1041
School of Computer Science

Submitted By: Submitted To:
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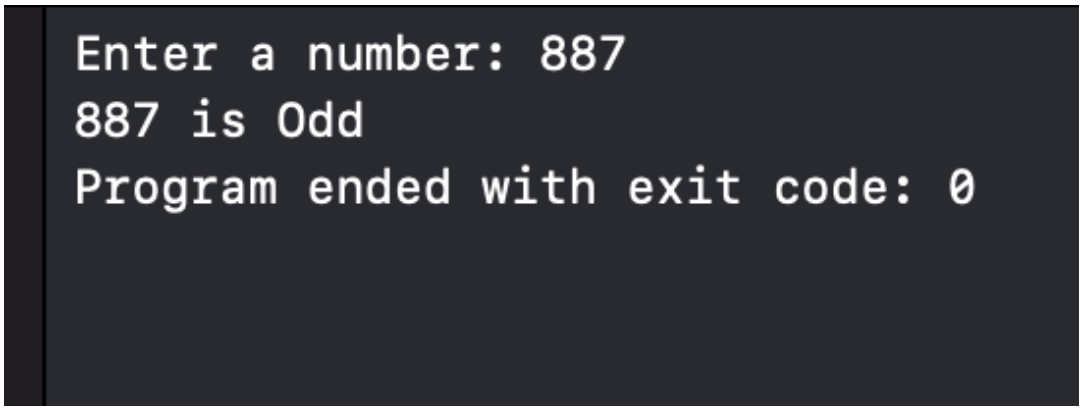
Course:B.Sc(Computer Science)
Batch:2025-28
Academic Year: 2025-26

```c
// Experiment 3.1: Conditional statements
// 1. Write a program to check whether a number is Even or Odd


#include <stdio.h>

int main() {
    int num;

    printf("Enter a number: ");
    scanf("%d", &num);

    if (num % 2 == 0) {
        printf("%d is Even\n", num);
    } else {
        printf("%d is Odd\n", num);
    }

    return 0;
}
```

Output:



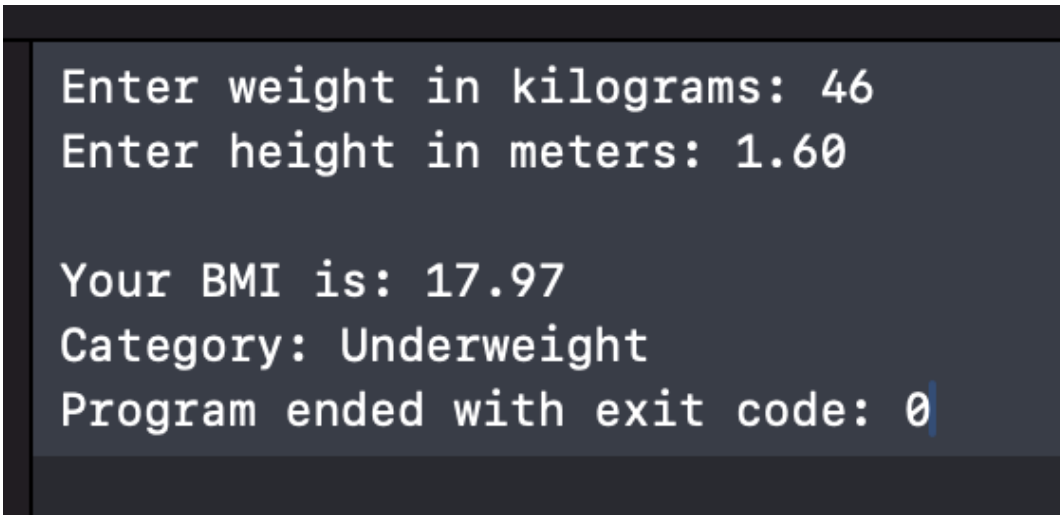
```c
// 3.2 : WAP to check if the triangle is valid or not. if the validity is established, do check if the triangle is is isosceles, equilateral, right angled or scalene. Take sides of the triangle is input from user
#include <stdio.h>

int main() {
    int a, b, c;
    printf("Enter three sides of the triangle: ");
    scanf("%d %d %d", &a, &b, &c);

    // Check validity
    if (a + b > c && a + c > b && b + c > a) {
        printf("The triangle is valid.\n");

        // Check Equilateral
        if (a == b && b == c) {
            printf("It is an Equilateral triangle.\n");
        }
        // Check Isosceles
        else if (a == b || b == c || a == c) {
            printf("It is an Isosceles triangle.\n");
        }
        // Check Right-angled
        else if ((a * a + b * b == c * c) ||
                 (a * a + c * c == b * b) ||
                 (b * b + c * c == a * a)) {
            printf("It is a Right-angled triangle.\n");
        }
        // Otherwise Scalene
        else {
            printf("It is a Scalene triangle.\n");
        }
    } else {
        printf("The triangle is NOT valid.\n");
    }

    return 0;
}
```

Output:

```
Enter three sides of the triangle: 8
8
7
The triangle is valid.
It is an Isosceles triangle.
Program ended with exit code: 0
```

```c
//3.3. WAP to compute the BMI Index of the person and print the BMI values as per the following ranges. You can use the following formula to compute BMI= weight(kgs)/Height(Mts)*Height(Mts).


#include <stdio.h>

int main() {
    float weight, height, bmi;

    // Input
    printf("Enter weight in kilograms: ");
    scanf("%f", &weight);

    printf("Enter height in meters: ");
    scanf("%f", &height);

    // Validate input
    if (height <= 0 || weight <= 0) {
        printf("Invalid input! Height and weight must be greater than zero.\n");
        return 1;
    }

    // BMI calculation
    bmi = weight / (height * height);

    // Output BMI value
    printf("\nYour BMI is: %.2f\n", bmi);

    // BMI category
    if (bmi < 15) {
        printf("Category: Starvation\n");
    } else if (bmi >= 15 && bmi <= 17.5) {
        printf("Category: Anorexic\n");
    } else if (bmi >= 17.6 && bmi <= 18.5) {
        printf("Category: Underweight\n");
    } else if (bmi >= 18.6 && bmi <= 24.9) {
        printf("Category: Ideal\n");
    } else if (bmi >= 25 && bmi <= 29.9) {   // fixed range (no gap)
        printf("Category: Overweight\n");
    } else if (bmi >= 30 && bmi <= 39.9) {
        printf("Category: Obese\n");
    } else if (bmi >= 40) {
        printf("Category: Morbidly Obese\n");
    }

    return 0;
}
```

Output:


Enter weight in kilograms: 46
Enter height in meters: 1.60
Your BMI is: 17.97
Category: Underweight
Program ended with exit code: 0