TEST-3

Count the Number of Vowels and Consonants in a Sentence

```
#include <stdio.h>
#include <ctype.h>
int main() {
   char sentence[1000];
   int vowels = 0, consonants = 0, i;
   printf("Enter a sentence: ");
   fgets(sentence, sizeof(sentence), stdin);
   for (i = 0; sentence[i] != '\0'; ++i) {
      if (isalpha(sentence[i])) {
         i
f (tolower(sentence[i]) == 'a' || tolower(sentence[i]) == 'e' || tolower(sentence[i]) == 'i' ||
            tolower(sentence[i]) == 'o' || tolower(sentence[i]) == 'u') {
            ++vowels;
         } else {
            ++consonants;
         }
      }
   }
   printf("Number of vowels: %d\n", vowels);
   printf("Number of consonants: %d\n", consonants);
   return 0;
}
```

OUTPUT:

```
Enter a sentence: i am in chennai
Number of vowels: 6
Number of consonants: 6
```

Accept the Height of a Person & Categorize as Taller, Dwarf & Average

```
#include <stdio.h>
int main() {
```

```
    float height;
    printf("Enter the height of the person (in meters): ");
    scanf("%f", &height);
    if (height < 1.4) {
        printf("The person is a dwarf.\n");
    } else if (height >= 1.4 && height <= 1.8) {
        printf("The person has an average height.\n");
    } else {
        printf("The person is taller.\n");
    }
 return 0;
}
```

OUTPUT:

```
Enter the height of the person (in meters): 4
The person is taller.
```

Prime Number

```
#include <stdio.h>

int isPrime(int num) {

    if (num <= 1) {

        return 0;

    }

    for (int i = 2; i * i <= num; ++i) {

        if (num % i == 0) {

            return 0;

        }

    }

    return 1;
```

```
}
int main() {
    int number;
    printf("Enter a number: ");
    scanf("%d", &number);
    if (isPrime(number)) {
        printf("%d is a prime number.\n", number);
    } else {
        printf("%d is not a prime number.\n", number);
    }
    return 0;
}
```

OUTPUT:

```
Enter a number: 25
25 is not a prime number.
```

Check Whether a Given Number is Perfect Number

```
#include <stdio.h>
int isPerfectNumber(int num) {
    int sum = 0;
    for (int i = 1; i < num; ++i) {
        if (num % i == 0) {
```

```
            sum += i;
        }
    }
    return sum == num;
}
int main() {
    int number;
    printf("Enter a number: ");
    scanf("%d", &number);
    if (isPerfectNumber(number)) {
        printf("%d is a perfect number.\n", number);
    } else {
        printf("%d is not a perfect number.\n", number);
    }
    return 0;
}
```

OUTPUT

```
Enter a number: 6
6 is a perfect number.
```

Check Armstrong Number

```
#include <stdio.h>
```

```
#include <math.h>
int isArmstrong(int num) {
    int originalNum, remainder, result = 0, n = 0;
    originalNum = num;
    while (originalNum != 0) {
        originalNum /= 10; ++n;
    }
    originalNum = num;
    while (originalNum != 0) {
        remainder = originalNum % 10;
        result += pow(remainder, n);
        originalNum /= 10;
    }
    if (result == num)
        return 1;
    else
        return 0;
}
int main() {
    int number;
    printf("Enter a number: ");
    scanf("%d", &number);
    if (isArmstrong(number)) {
```

```
        printf("%d is an Armstrong number.\n", number);
    } else {
        printf("%d is not an Armstrong number.\n", number);
    }
    return 0;
}
```

OUTPUT:

Enter a number: 6

6 is an Armstrong number.