

C programming

Day – 3 test

1. Count the Number of Vowels and Consonants in a Sentence

The screenshot shows a C program in a code editor and its execution in a terminal. The program counts the number of vowels, consonants, digits, and white spaces in a given string.

```
1 #include <stdio.h>
2 int main() {
3     char line[150];
4     int vowels, consonant, digit, space;
5     vowels = consonant = digit = space = 0;
6     printf("Enter a line of string: ");
7     fgets(line, sizeof(line), stdin);
8
9     for (int i = 0; line[i] != '\0'; ++i) {
10        // check if the character is a vowel
11        if (line[i] == 'a' || line[i] == 'e' || line[i] == 'i' ||
12            line[i] == 'o' || line[i] == 'u') {
13            // increment value of vowels by 1
14            ++vowels;
15        }
16        // if it is not a vowel and if it is an alphabet, it is a consonant
17        else if ((line[i] >= 'a' && line[i] <= 'z')) {
18            ++consonant;
19        }
20        // check if the character is a digit
21        else if (line[i] >= '0' && line[i] <= '9') {
22            ++digit;
23        }
24        // check if the character is an empty space
25        else if (line[i] == ' ') {
26            ++space;
27        }
28    }
29    printf("Vowels: %d", vowels);
30 }
```

Terminal Output:

```
Enter a line of string: saveetha
Vowels: 4
Consonants: 4
Digits: 0
White spaces: 0
-----
Process exited after 11.28 seconds with return value 0
Press any key to continue . . .
```

2. Accept the height of a person

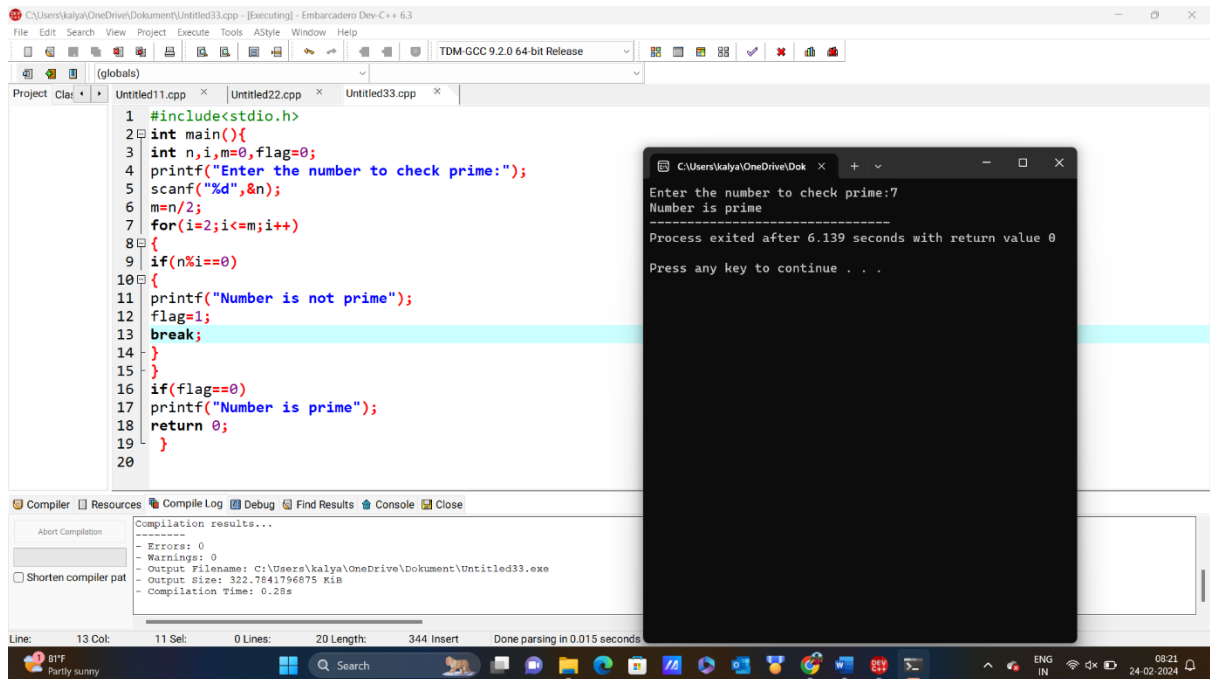
The screenshot shows a C program in a code editor and its execution in a terminal. The program accepts a height in centimeters and classifies it as Dwarf, Average, or Abnormal.

```
1 #include <stdio.h>
2 int main()
3 {
4     float height;
5     printf("Enter the Height (in centimetres) \n");
6     scanf("%f", &height);
7     if (height < 150.0)
8         printf("Dwarf \n");
9     else if ((height >= 150.0) && (height <= 165.0))
10        printf("Average Height \n");
11     else if ((height > 165.0) && (height <= 195.0))
12        printf("Taller \n");
13     else
14        printf("Abnormal height \n");
15 }
```

Terminal Output:

```
Enter the Height (in centimetres)
12
Dwarf
-----
Process exited after 4.832 seconds with return value 0
Press any key to continue . . .
```

3. Prime Number



The screenshot shows an IDE window titled "C:\Users\kalya\OneDrive\Document\Untitled33.cpp - [Executing] - Embarcadero Dev-C++ 6.3". The code in the editor is as follows:

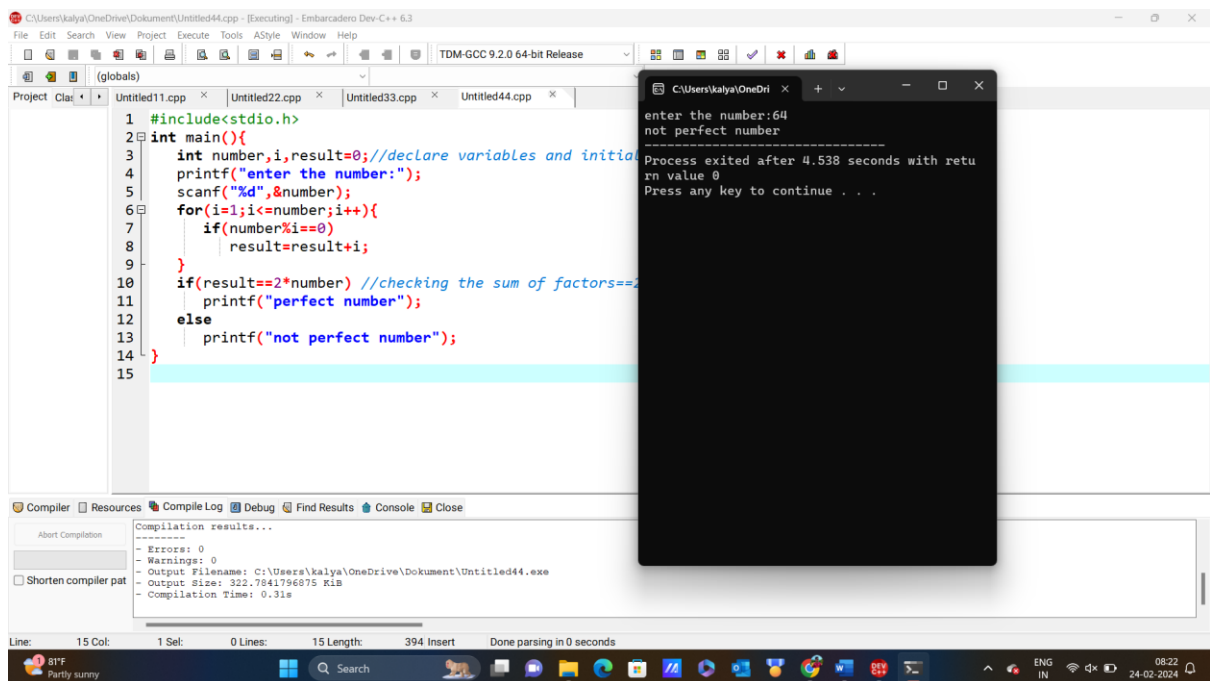
```
1 #include<stdio.h>
2 int main(){
3     int n,i,m=0,flag=0;
4     printf("Enter the number to check prime:");
5     scanf("%d",&n);
6     m=n/2;
7     for(i=2;i<=m;i++)
8     {
9         if(n%i==0)
10        {
11            printf("Number is not prime");
12            flag=1;
13            break;
14        }
15    }
16    if(flag==0)
17        printf("Number is prime");
18    return 0;
19 }
```

The console output shows the program running with input 7:

```
Enter the number to check prime:7
Number is prime
-----
Process exited after 6.139 seconds with return value 0
Press any key to continue . . .
```

The compiler output at the bottom shows no errors or warnings.

4. Check Whether a Given Number is Perfect Number



The screenshot shows an IDE window titled "C:\Users\kalya\OneDrive\Document\Untitled44.cpp - [Executing] - Embarcadero Dev-C++ 6.3". The code in the editor is as follows:

```
1 #include<stdio.h>
2 int main(){
3     int number,i,result=0; //declare variables and initialize
4     printf("enter the number:");
5     scanf("%d",&number);
6     for(i=1;i<=number;i++){
7         if(number%i==0)
8             result=result+i;
9     }
10    if(result==2*number) //checking the sum of factors==2*number
11        printf("perfect number");
12    else
13        printf("not perfect number");
14 }
```

The console output shows the program running with input 6:

```
enter the number:6
not perfect number
-----
Process exited after 4.538 seconds with return value 0
Press any key to continue . . .
```

The compiler output at the bottom shows no errors or warnings.

5. Check Armstrong Number

