

120CS0196

PROGRAMMING LABORATORY-2

CS1000

Assignment-2

Group-'P7' Section:'E'

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Codes are uploaded on my GitHub account :
<https://github.com/prachi237/justC>

Assignment-2

1) If a four digit number is input through keyboard, find the sum of its digits. (Hint : Use % operator)

//If a four digit number is input through keyboard, find the sum of its digits. (Hint : Use % operator)

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

```
int main()
```

```
{
```

```
    int num,n,sum;
```

```
    printf("enter the four digit number: %d",num);
```

```
    scanf("%d",&num);
```

```
    while(num>0)
```

```
    {
```

```
        n=num%10;
```

```
        sum+=n;
```

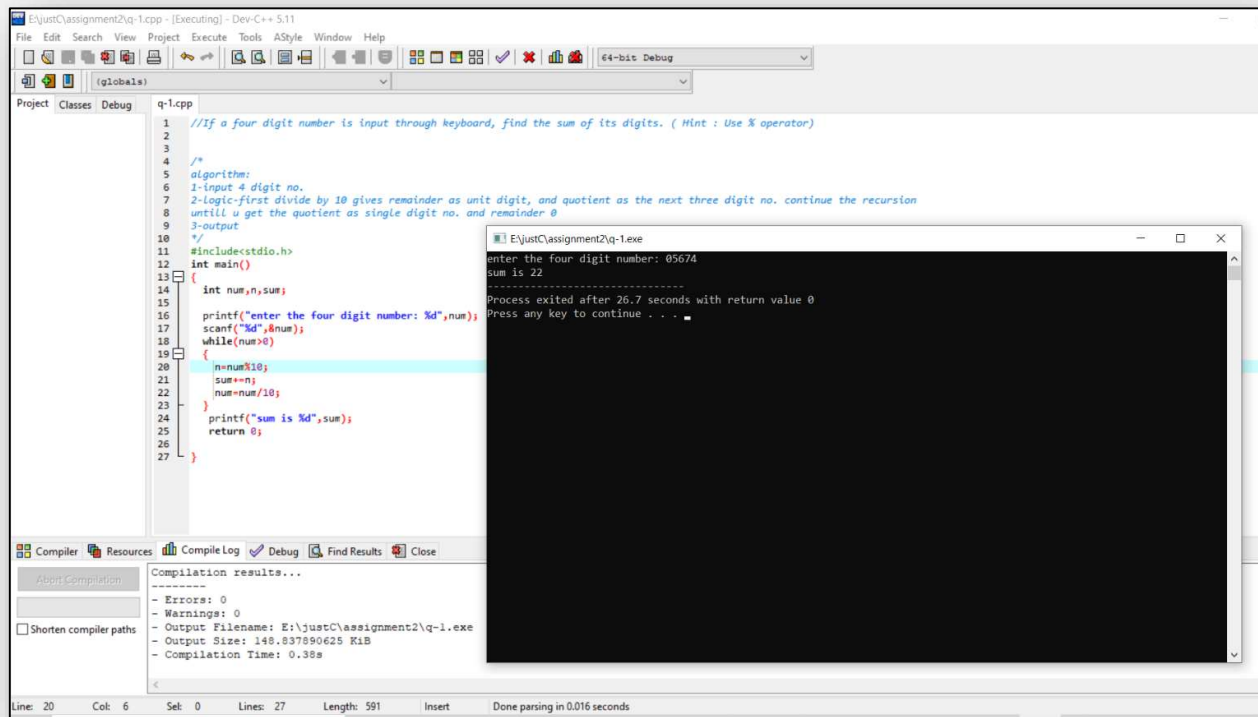
```
        num=num/10;
```

```
    }
```

```
    printf("sum is %d",sum);
```

```
    return 0;
```

```
}
```



2) Write a c program to perform following and print the value:

(a) addition, subtraction, multiplication and division of two integers: 32 & 78

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

```
int main()
```

```
{
```

```
    int num1=32;
```

```
    int num2=78;
```

```
    int add,sub,mult;
```

```
    float div;
```

```
    add=num1+num2;
```

```
    sub=num2-num1;
```

```
    mult=num1*num2;
```

```
    div=num2/num1;
```

```
printf("\n Addition is :%d",add);  
  
printf("\n Subtraction is: %d",sub);  
  
printf("\n multiplication is: %d",mult);  
  
printf("\n division is: %d \n",div);
```

```
return 0;
```

```
}
```

The screenshot displays the Dev-C++ IDE with a C program named 'q-2.cpp' open. The program calculates addition, subtraction, multiplication, and division for the integers 32 and 78. The code is as follows:

```
1 //Write a c program to perform following and print the value:  
2 // (a) addition, subtraction, multiplication and division of two integers: 32 & 78  
3  
4 #include<stdio.h>  
5 int main()  
6 {  
7     int num1=32;  
8     int num2=78;  
9     int add,sub,mult;  
10    float div;  
11    add=num1+num2;  
12    sub=num2-num1;  
13    mult=num1*num2;  
14    div=num2/num1;  
15  
16    printf("\n Addition is :%d",add);  
17    printf("\n Subtraction is: %d",sub);  
18    printf("\n multiplication is: %d",mult);  
19    printf("\n division is: %f \n",div);  
20  
21    return 0;  
22 }
```

The output window shows the results of the program's execution:

```
Execution: E:\justC\assignment2\q-2.exe  
Addition is :110  
Subtraction is: 46  
multiplication is: 2496  
division is: 2.000000  
-----  
Process exited after 0.3619 seconds with return value 0  
Press any key to continue . . .
```

The status bar at the bottom indicates the current line is 19, column is 31, and the file is 'q-2.cpp'.

3). Write a C program to swap two numbers.

- Eg : a =10 , b=20 . (before swap)
a=20, b=10 (after swap)

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

```
int main()
```

```
{
```

```
    int num1,num2;
```

```
    printf("%d Enter the value of num1: ",num1);
```

```
    scanf("%d",&num1);
```

```
    printf("\n %d Enter the value of num2:",num2);
```

```
    scanf("%d",&num2);
```

```
    num1=num1+num2;
```

```
    num2=num1-num2;
```

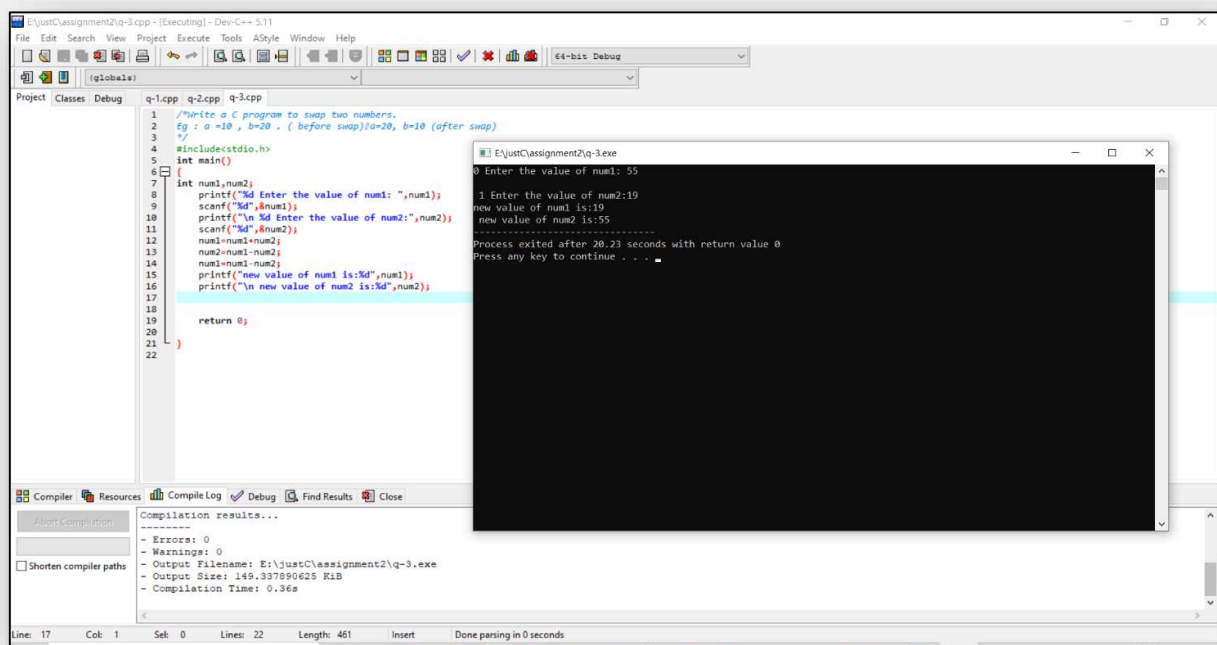
```
    num1=num1-num2;
```

```
    printf("new value of num1 is:%d",num1);
```

```
    printf("\n new value of num2 is:%d",num2);
```

```
    return 0;
```

```
}
```



The screenshot shows the Dev-C++ IDE with a C program to swap two numbers. The code is in q-3.cpp and the output is shown in a separate window.

```
1 //Write a C program to swap two numbers.
2 Eg : a =10 , b=20 . ( before swap)/a=20, b=10 (after swap)
3
4 #include<stdio.h>
5 int main()
6 {
7     int num1,num2;
8     printf("%d Enter the value of num1: ",num1);
9     scanf("%d",&num1);
10    printf("\n %d Enter the value of num2:",num2);
11    scanf("%d",&num2);
12    num1=num1+num2;
13    num2=num1-num2;
14    num1=num1-num2;
15    printf("new value of num1 is:%d",num1);
16    printf("\n new value of num2 is:%d",num2);
17
18    return 0;
19
20
21
22 }
```

The output window shows the execution of the program:

```
0 Enter the value of num1: 55
1 Enter the value of num2:19
new value of num1 is:55
new value of num2 is:55
.....
Process exited after 20.23 seconds with return value 0
Press any key to continue . . .
```

The compilation results show no errors or warnings:

```
Compilation results...
- Errors: 0
- Warnings: 0
- Output Filename: E:\justC\assignment2\q-3.exe
- Output Size: 149.337890625 KiB
- Compilation Time: 0.36s
```

4) Write a C program for the following:

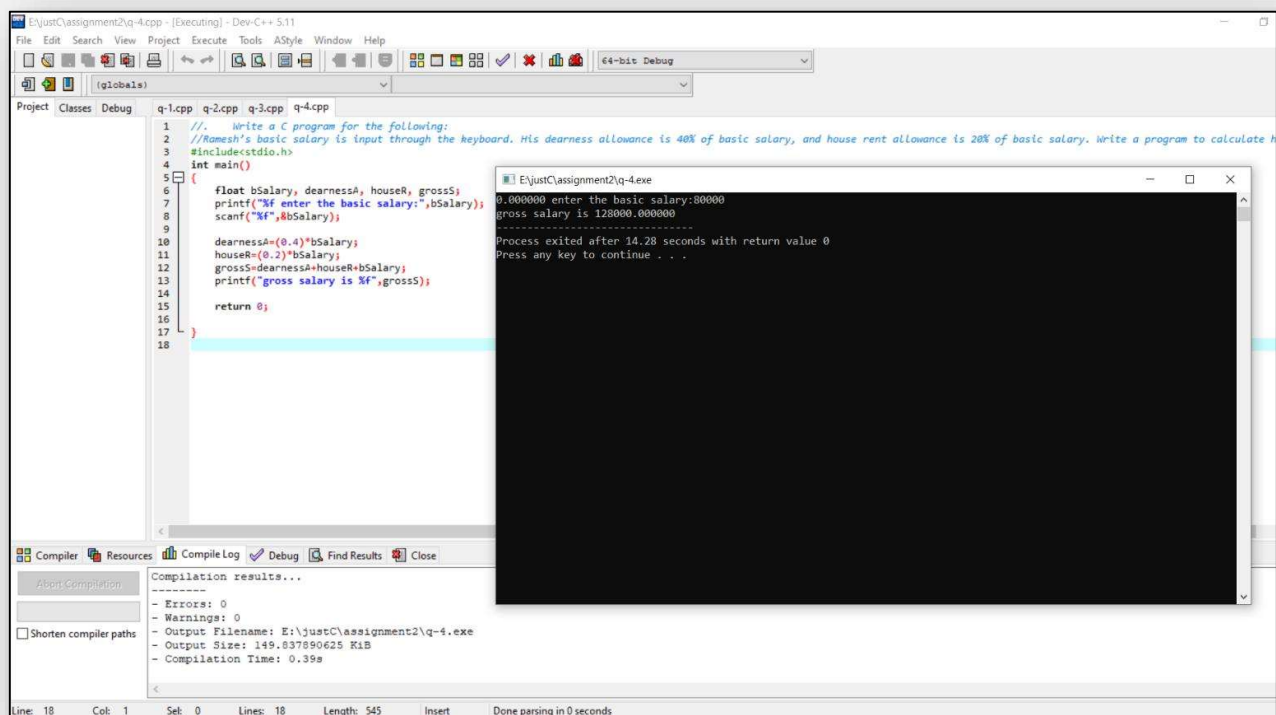
Ramesh's basic salary is input through the keyboard. His dearness allowance is 40% of basic salary, and house rent allowance is 20% of basic salary. Write a program to calculate his gross salary.

```
#include<stdio.h>

int main()
{
    float bSalary, dearnessA, houseR, grossS;
    printf("%f enter the basic salary:",bSalary);
    scanf("%f",&bSalary);

    dearnessA=(0.4)*bSalary;
    houseR=(0.2)*bSalary;
    grossS=dearnessA+houseR+bSalary;
    printf("gross salary is %f",grossS);

    return 0;
}
```



The screenshot shows the Dev-C++ IDE with a C program for calculating gross salary. The source code is displayed in the main editor, and the output window shows the program's execution. The program prompts the user to enter the basic salary, which is 80000.00. It then calculates the dearness allowance (40% of 80000.00) and the house rent allowance (20% of 80000.00), and finally outputs the gross salary as 128000.00. The compilation results window at the bottom shows that the program compiled successfully with no errors or warnings.

```
1 // Write a program for the following:
2 //Ramesh's basic salary is input through the keyboard. His dearness allowance is 40% of basic salary, and house rent allowance is 20% of basic salary. Write a program to calculate his gross salary.
3 #include<stdio.h>
4 int main()
5 {
6     float bSalary, dearnessA, houseR, grossS;
7     printf("%f enter the basic salary:",bSalary);
8     scanf("%f",&bSalary);
9
10    dearnessA=(0.4)*bSalary;
11    houseR=(0.2)*bSalary;
12    grossS=dearnessA+houseR+bSalary;
13    printf("gross salary is %f",grossS);
14
15    return 0;
16 }
17
18
```

Output window (E:\justC\assignment2\q-4.exe):

```
0.000000 enter the basic salary:80000
gross salary is 128000.000000
Process exited after 14.28 seconds with return value 0
Press any key to continue . . .
```

Compilation results:

```
-----
Errors: 0
Warnings: 0
Output Filename: E:\justC\assignment2\q-4.exe
Output Size: 149.837890625 KiB
Compilation Time: 0.39s
```

Codes are uploaded on my GitHub account :

<https://github.com/prachi237/justC>

Submitted by: Prachi Nandi 120CS0196

THANK YOU