PG - DAC Sept 2023
Logical Building & Problem Solving
Assignment - 2(Date:11/09/2023)
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Roll No. : 230950320086

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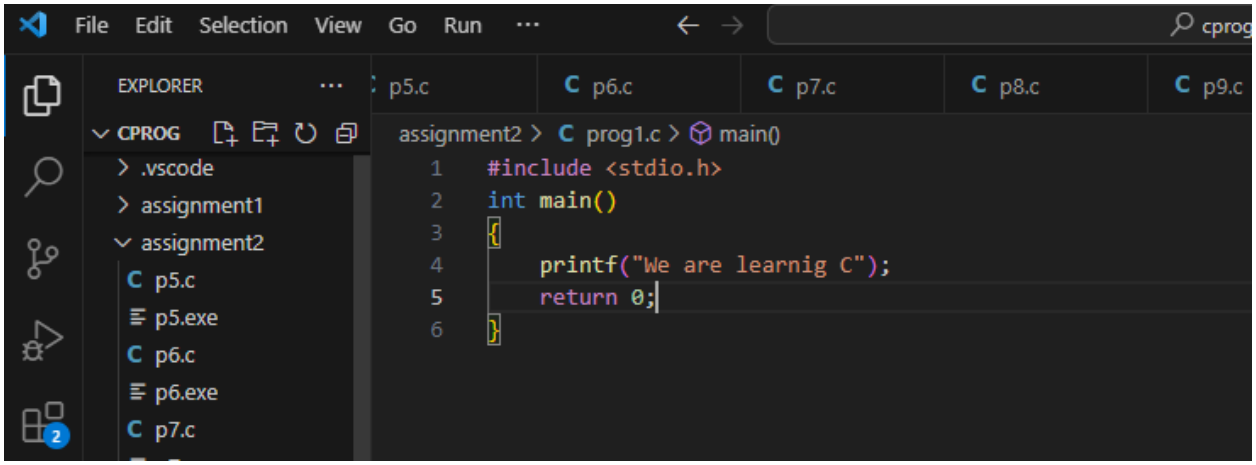
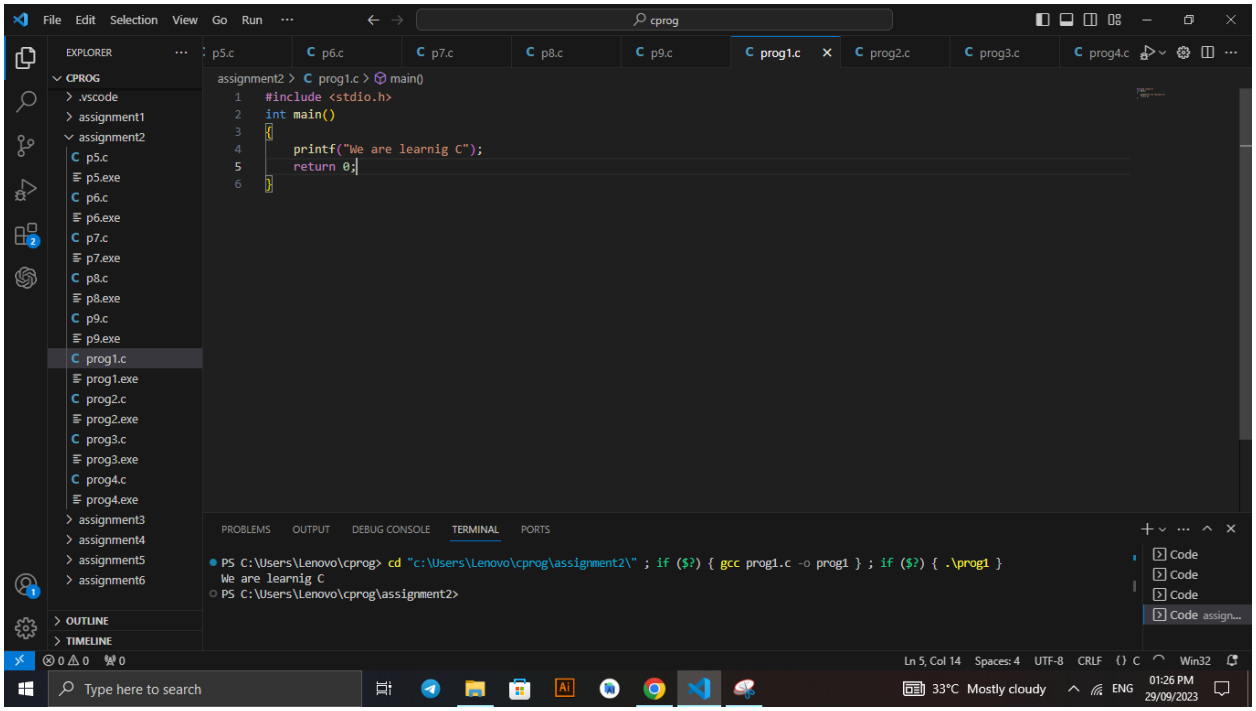
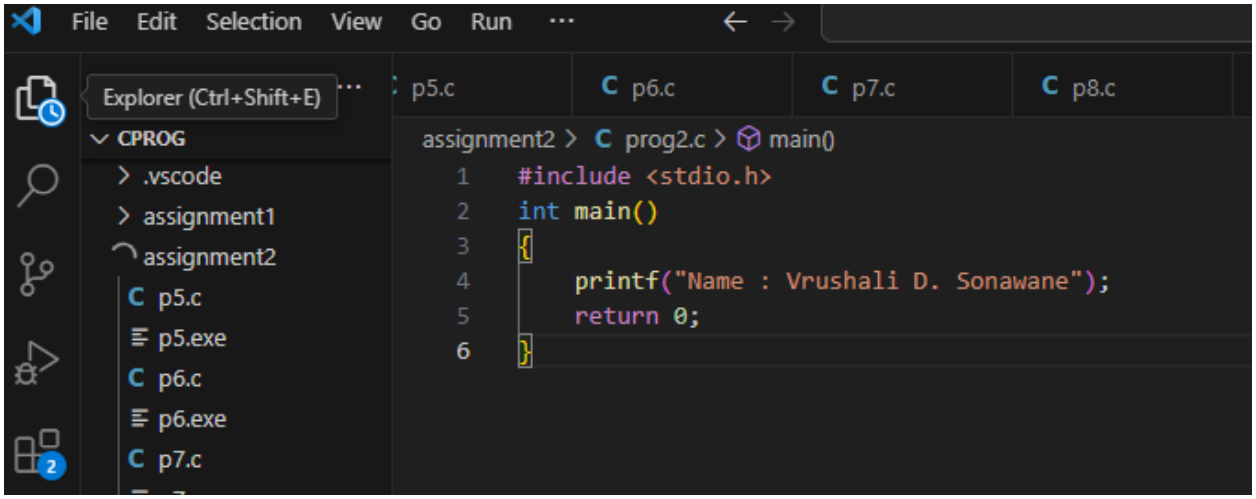
1. Write a program in C to print "We are learning C".



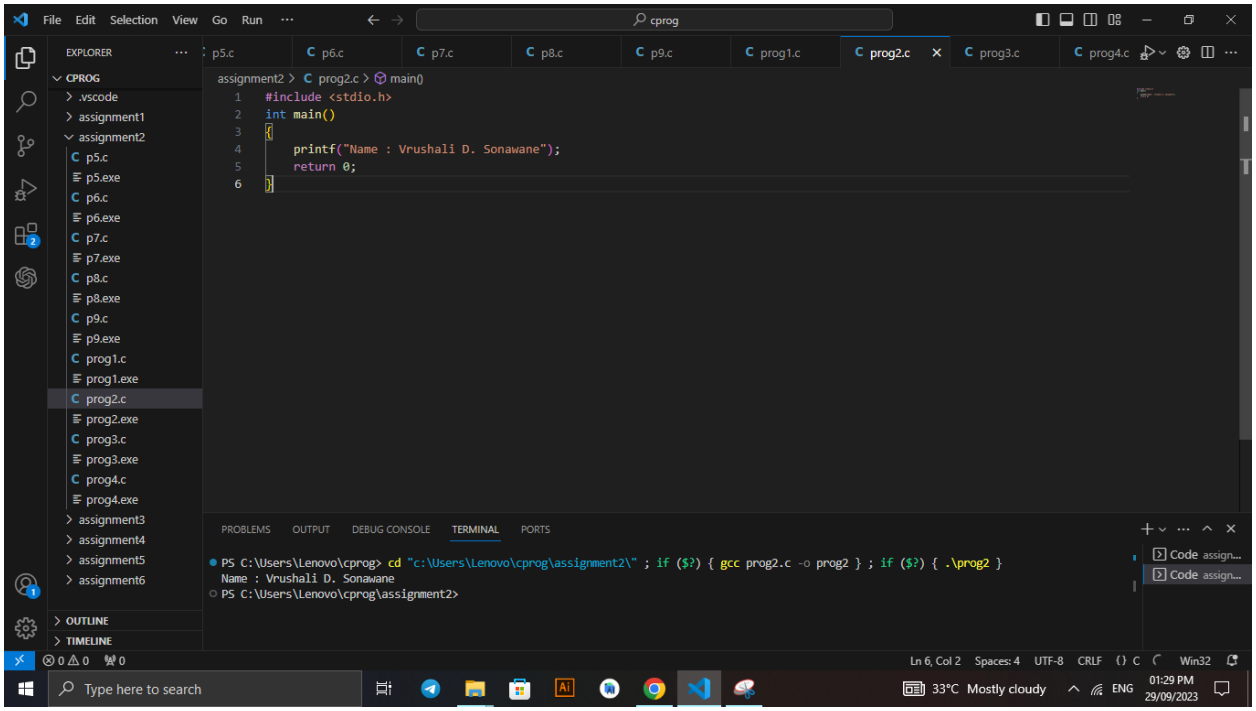
Output:



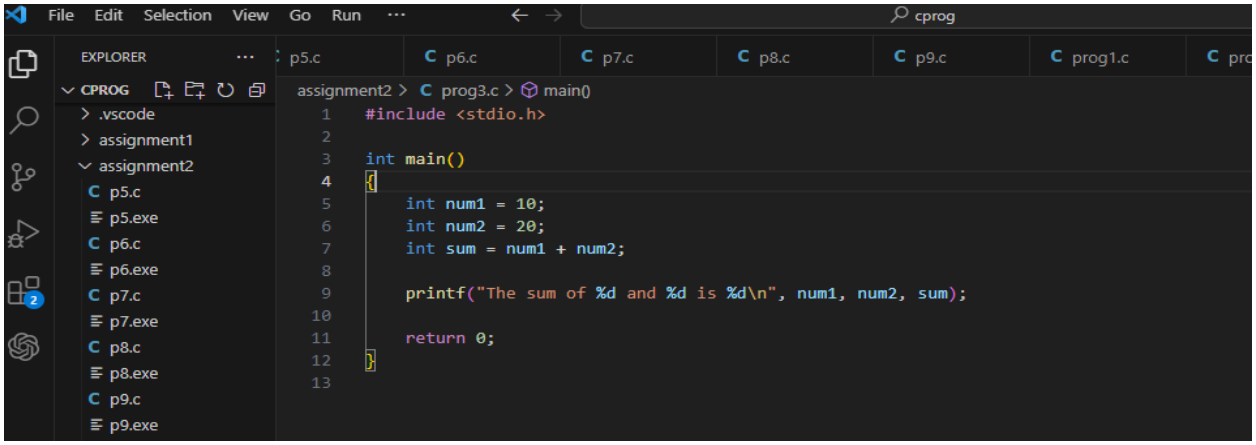
2.Write a program in C to print your name



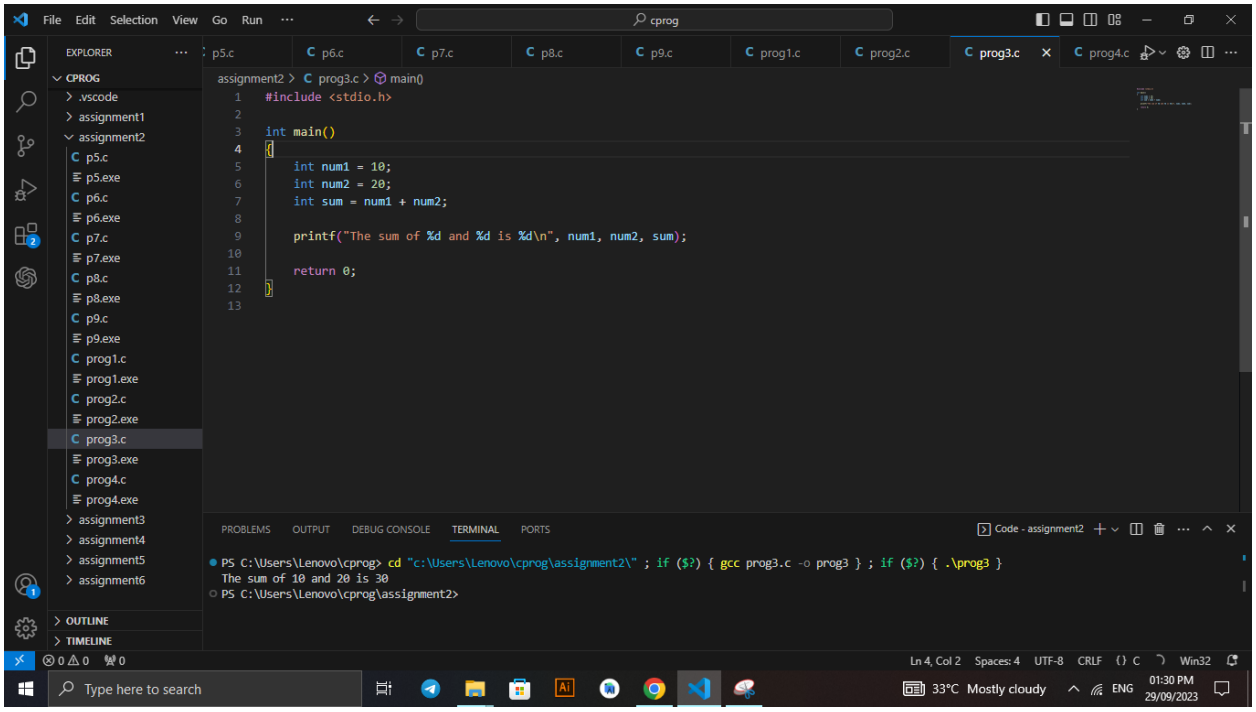
Output:



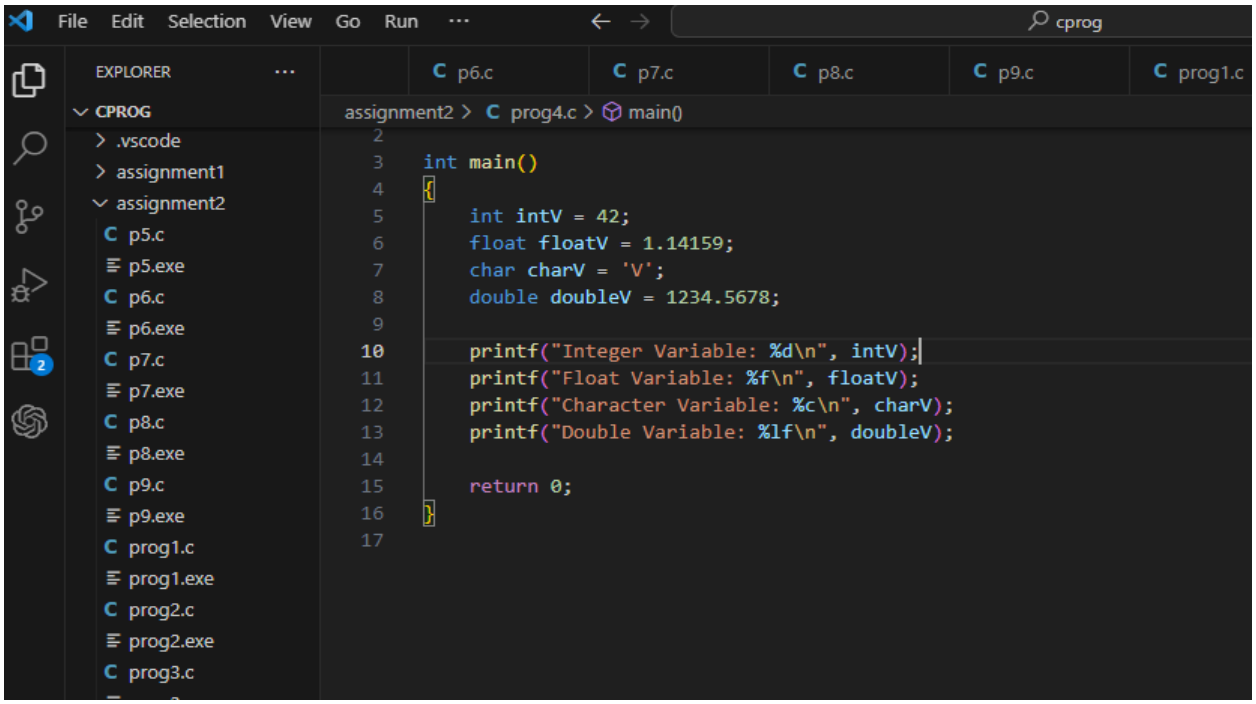
3. Write a program in C to add 10 and 20 and



Output:

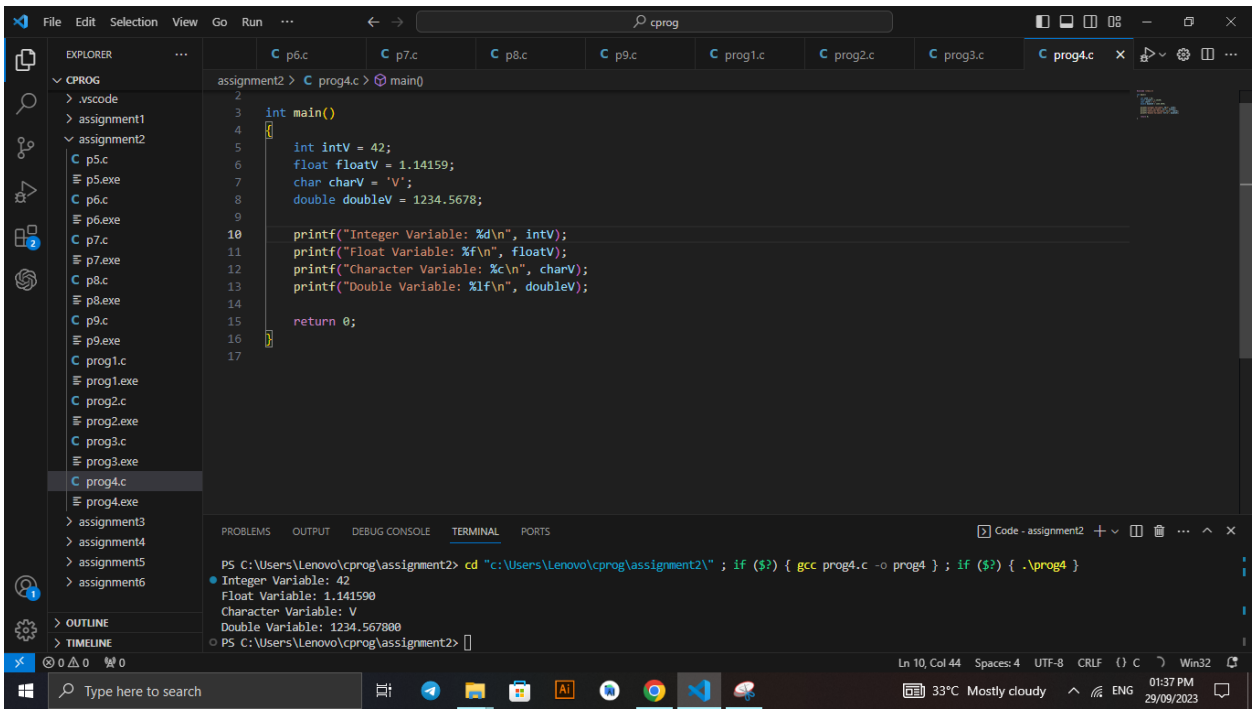


4. Declare variables of various data types (int, float, char, double) and assign values to them.



```c
int main()
{
    int intV = 42;
    float floatV = 1.14159;
    char charV = 'V';
    double doubleV = 1234.5678;

    printf("Integer Variable: %d\n", intV);
    printf("Float Variable: %f\n", floatV);
    printf("Character Variable: %c\n", charV);
    printf("Double Variable: %lf\n", doubleV);

    return 0;
}
```

Output:



```
PS C:\Users\Lenovo\cprog\assignment2> cd "c:\Users\Lenovo\cprog\assignment2\" ; if ($?) { gcc prog4.c -o prog4 } ; if ($?) { .\prog4 }
Integer Variable: 42
Float Variable: 1.141590
Character Variable: V
Double Variable: 1234.567800
PS C:\Users\Lenovo\cprog\assignment2>
```

5. Write a program that takes user input for different data types (int, float, char) and then displays them.

```c
int main()
{
    int intV;
    float floatV;
    char charV;

    printf("Enter an integer: ");
    scanf("%d", &intV);
    printf("Enter a float: ");
    scanf("%f", &floatV);
    printf("Enter a character: ");
    scanf(" %c", &charV);
    printf("You entered:\n");
    printf("Integer: %d\n", intV);
    printf("Float: %.2f\n", floatV);
    printf("Character: %c\n", charV);

    return 0;
}
```

Output :

```
PS C:\Users\Lenovo\cprog\assignment2> cd "c:\Users\Lenovo\cprog\assignment2\" ; if ($?) { gcc p5.c -o p5 } ; if ($?) { .\p5 }
Enter an integer: 16
Enter a float: 16.21
Enter a character: V
You entered:
Integer: 16
Float: 16.21
Character: V
PS C:\Users\Lenovo\cprog\assignment2> cd "c:\Users\Lenovo\cprog\assignment2\" ; if ($?) { gcc prog4.c -o prog4 } ; if ($?) { .\prog4 }
```

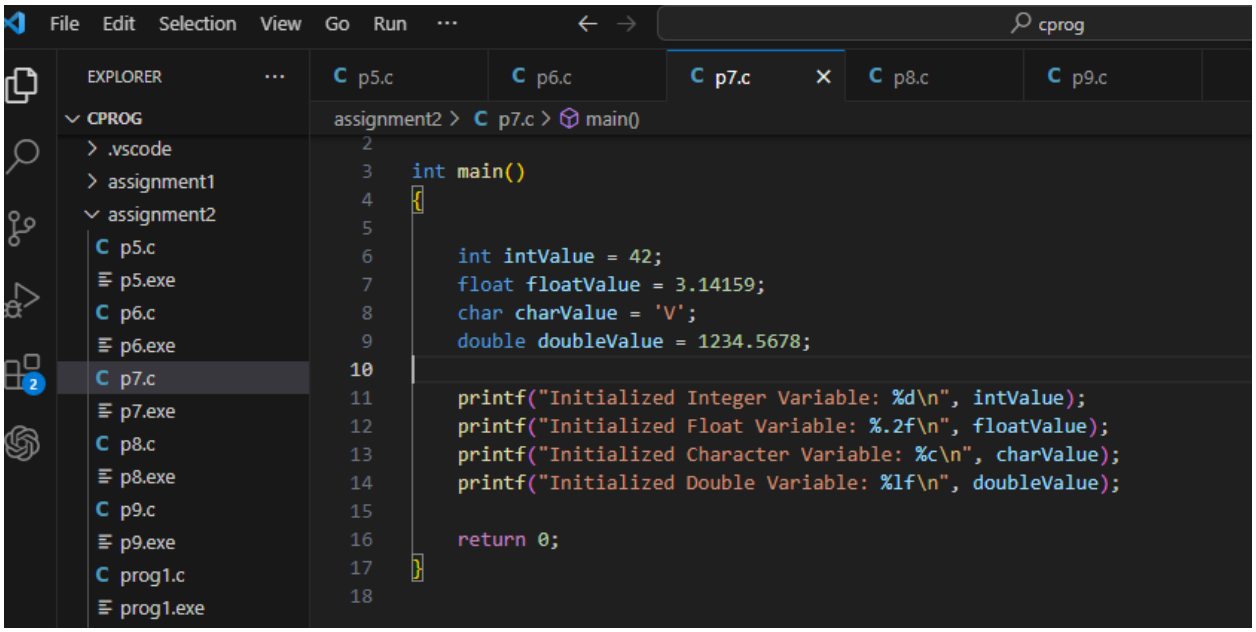
6. Write a program to swap the values of two variables without using a temporary variable.

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

    a = a + b;
    b = a - b;
    a = a - b;

    printf("After swapping:\n");
    printf("a = %d\n", a);
    printf("b = %d\n", b);

    return 0;
}
```

Output :

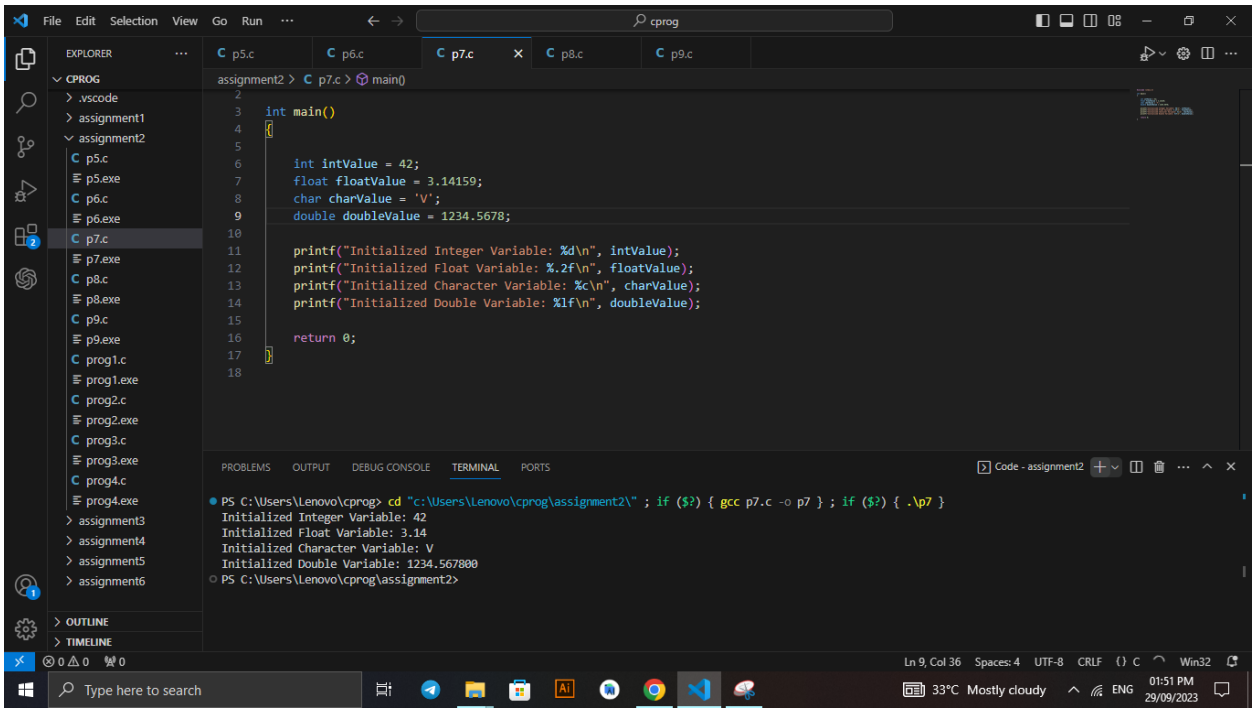
```
PS C:\Users\Lenovo\cprog> cd "c:\Users\Lenovo\cprog\assignment2\" ; if ($?) { gcc p6.c -o p6 } ; if ($?) { .\p6 }
Enter the value of a: 16
Enter the value of b: 21
After swapping:
a = 21
b = 16
PS C:\Users\Lenovo\cprog\assignment2>
```

7. Declare variables of different types (int, float, char, double) and initialize them with values



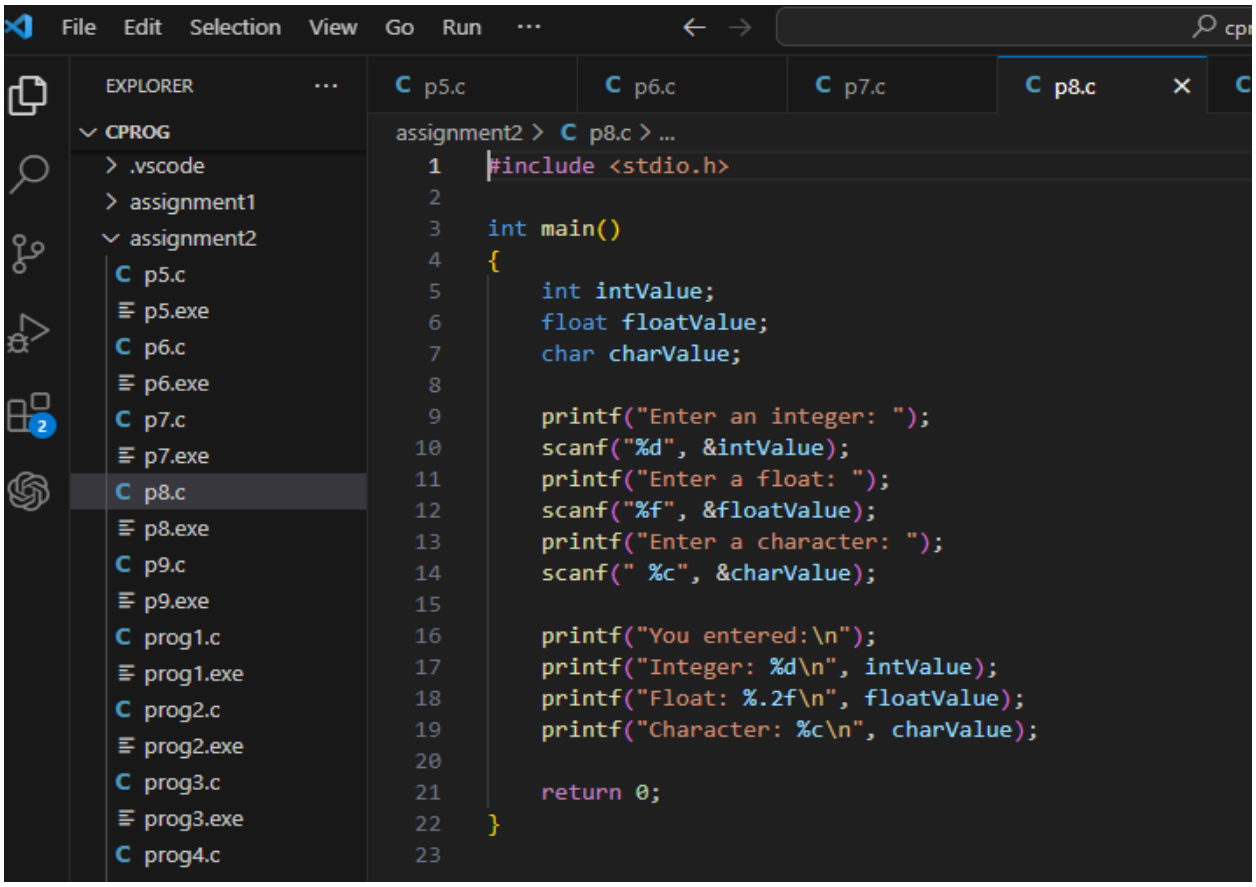
```c
int main()
{

    int intValue = 42;
    float floatValue = 3.14159;
    char charValue = 'V';
    double doubleValue = 1234.5678;

    printf("Initialized Integer Variable: %d\n", intValue);
    printf("Initialized Float Variable: %.2f\n", floatValue);
    printf("Initialized Character Variable: %c\n", charValue);
    printf("Initialized Double Variable: %lf\n", doubleValue);

    return 0;
}
```

Output :



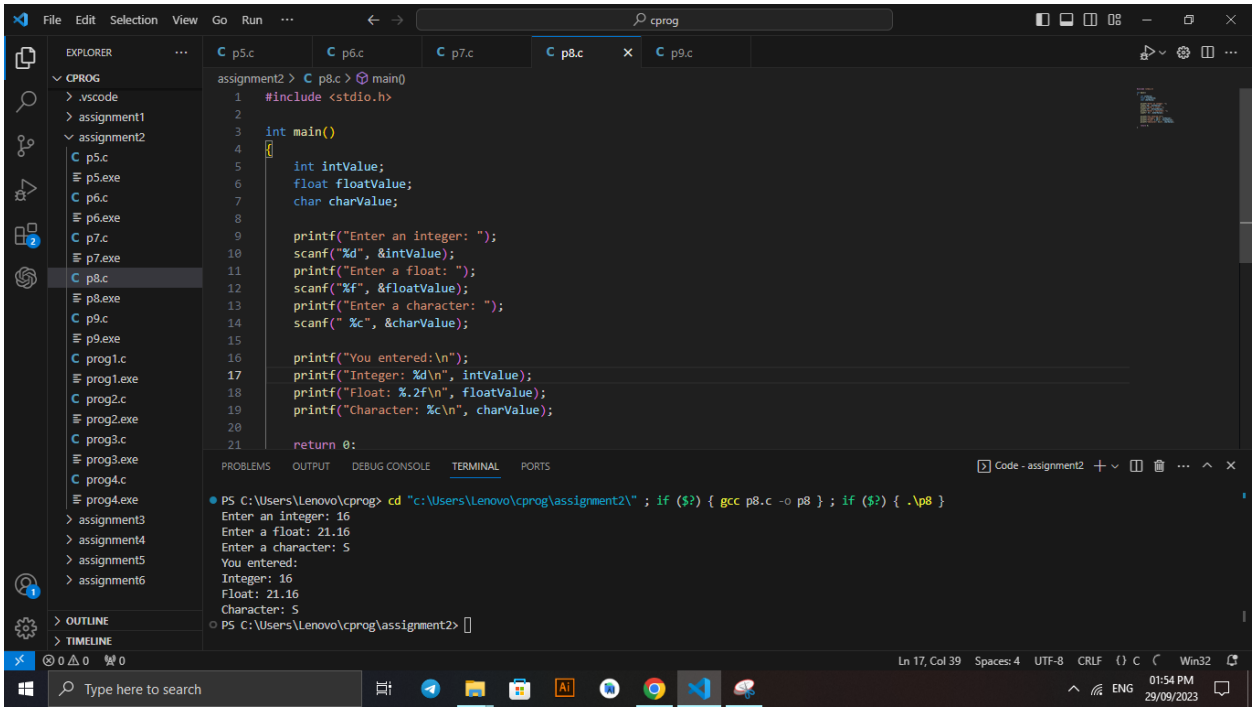
```
PS C:\Users\Lenovo\cprog> cd "c:\Users\Lenovo\cprog\assignment2\" ; if ($?) { gcc p7.c -o p7 } ; if ($?) { .\p7 }
Initialized Integer Variable: 42
Initialized Float Variable: 3.14
Initialized Character Variable: V
Initialized Double Variable: 1234.567800
PS C:\Users\Lenovo\cprog\assignment2>
```

8.Write a program that takes user input for variables and displays them.



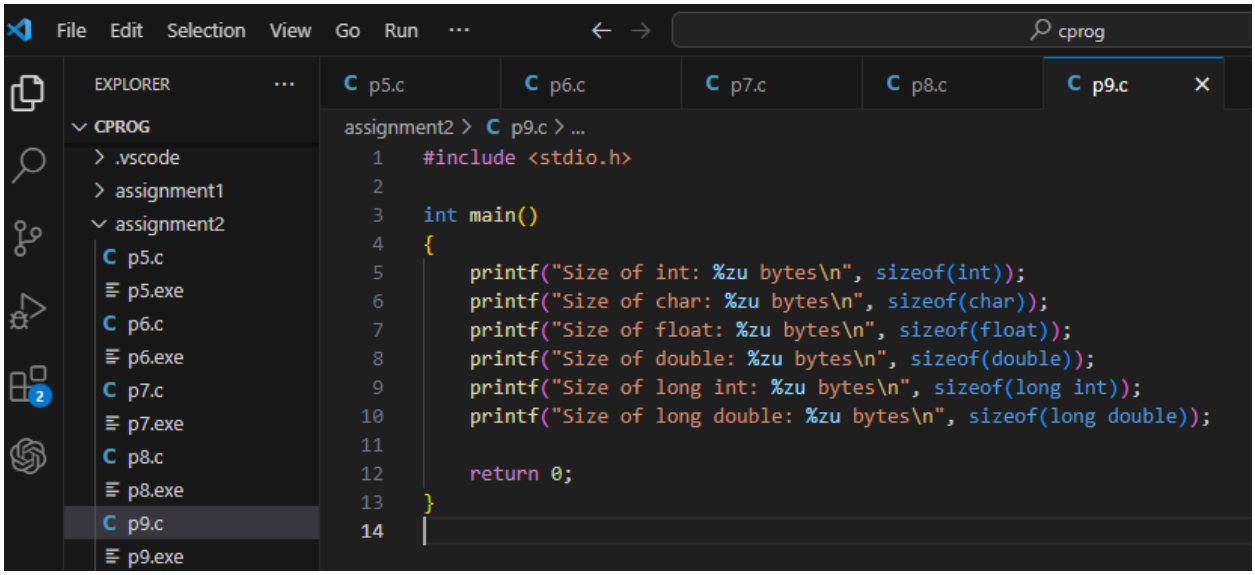
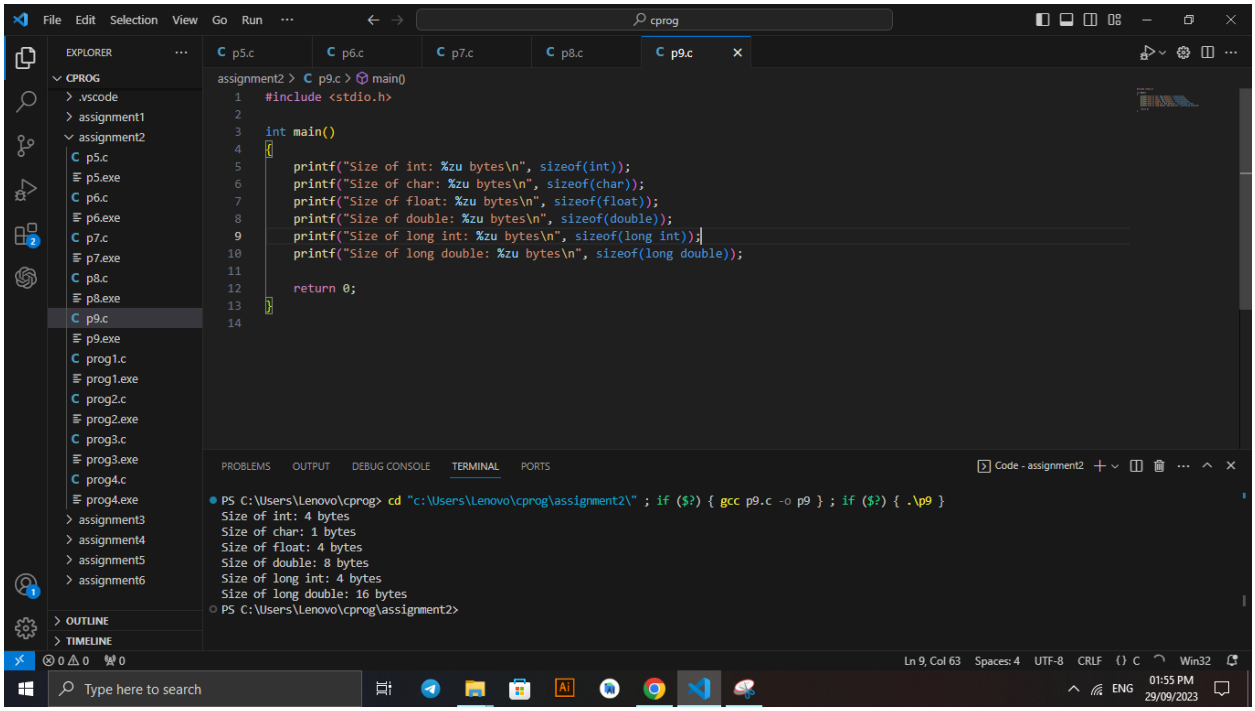
```c
#include <stdio.h>

int main()
{
    int intValue;
    float floatValue;
    char charValue;

    printf("Enter an integer: ");
    scanf("%d", &intValue);
    printf("Enter a float: ");
    scanf("%f", &floatValue);
    printf("Enter a character: ");
    scanf(" %c", &charValue);

    printf("You entered:\n");
    printf("Integer: %d\n", intValue);
    printf("Float: %.2f\n", floatValue);
    printf("Character: %c\n", charValue);

    return 0;
}
```

Output :



```
PS C:\Users\Lenovo\cprog> cd "c:\Users\Lenovo\cprog\assignment2\" ; if ($?) { gcc p8.c -o p8 } ; if ($?) { .\p8 }
Enter an integer: 16
Enter a float: 21.16
Enter a character: S
You entered:
Integer: 16
Float: 21.16
Character: S
PS C:\Users\Lenovo\cprog\assignment2>
```

9.Write a program to determine the sizes (in bytes) of various data types using the sizeof operator.



Output : u