C PROGRAMMING ASSIGNMENT: 12

DATE: 03.12.21

SUBMITTED BY: -

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BRANCH: CSE

SECTION: B22

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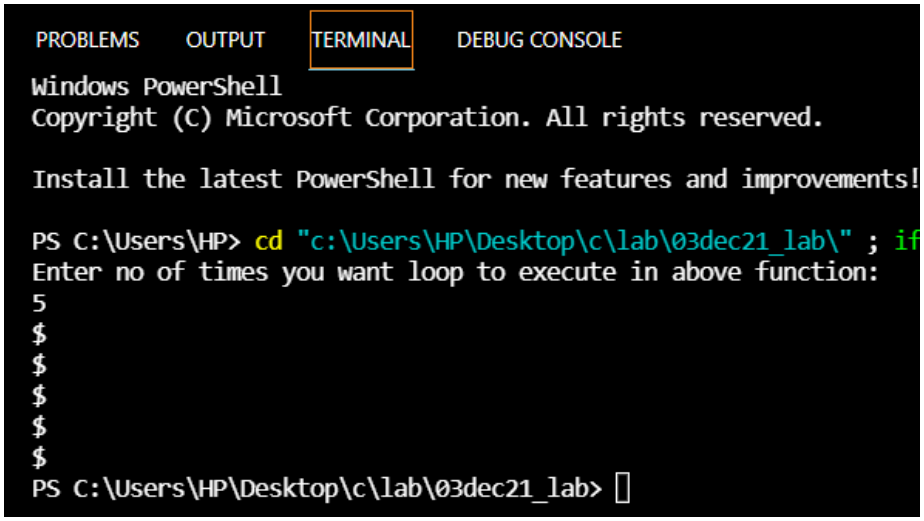
Program 1: Write a program to print any character for n times using functions.

Code:

```c
#include <stdio.h>
void disp(int n)
{
    for (int i = 0; i < n; i++)
    {
        printf("$\n");
    }

}
int main(int argc, char const *argv[])
{
    int a;
    printf("Enter no of times you want loop to execute in above function:\n");
    scanf("%d",&a);
    disp(a);
    return 0;
}
```

Output:

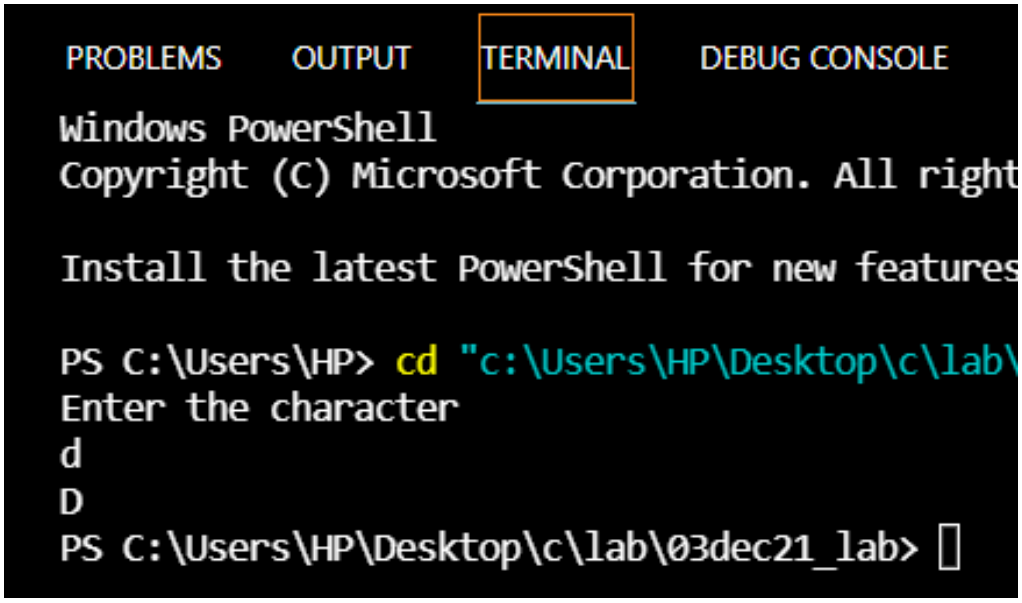


Program 2: Write a program to convert an lower case alphabet to upper case alphabet using functions.

Code:

```c
#include <stdio.h>
// lower case to upper case
void lctouc(char ch)
{
    if (ch >= 'a' && ch <= 'z')
    {
        ch = (int)ch - 32;
        printf("%c", ch);
    }
    else
    {
        printf("invalid");
    }
}
int main(int argc, char const *argv[])
{
    char a;
    printf("Enter the character\n");
    scanf("%c", &a);
    lctouc(a);
    return 0;
}
```

Output:


PROBLEMS
OUTPUT
TERMINAL
DEBUG CONSOLE
Windows PowerShell
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Install the latest PowerShell for new features
PS C:\Users\HP> cd "c:\Users\HP\Desktop\c\lab\
Enter the character
d
D
PS C:\Users\HP\Desktop\c\lab\03dec21_lab>

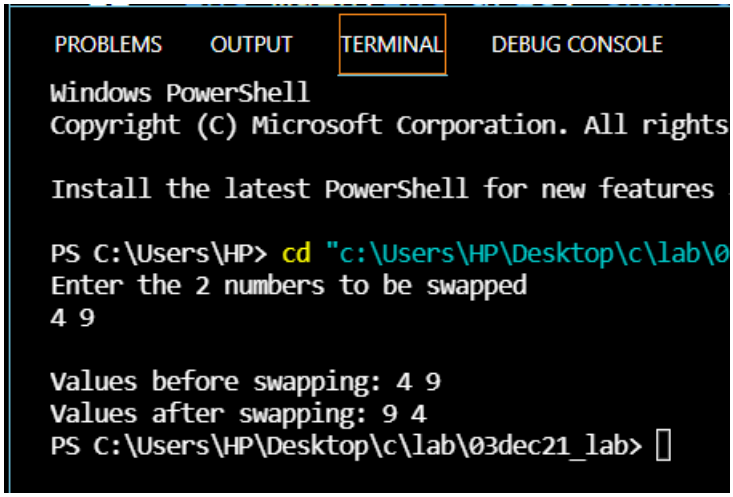
Program 3: Write a program to swap two numbers using functions

Code:

```c
#include <stdio.h>
//swapping with func
void swap(int a, int b)
{
    printf("\nValues before swapping: %d %d", a, b);
    a = a + b;
    b = a - b;
    a = a - b;
    printf("\nValues after swapping: %d %d", a, b);
}

int main(int argc, char const *argv[])
{
    int x, y;
    printf("Enter the 2 numbers to be swapped\n");
    scanf("%d %d", &x, &y);
    swap(x,y);
    return 0;
}
```

Output:

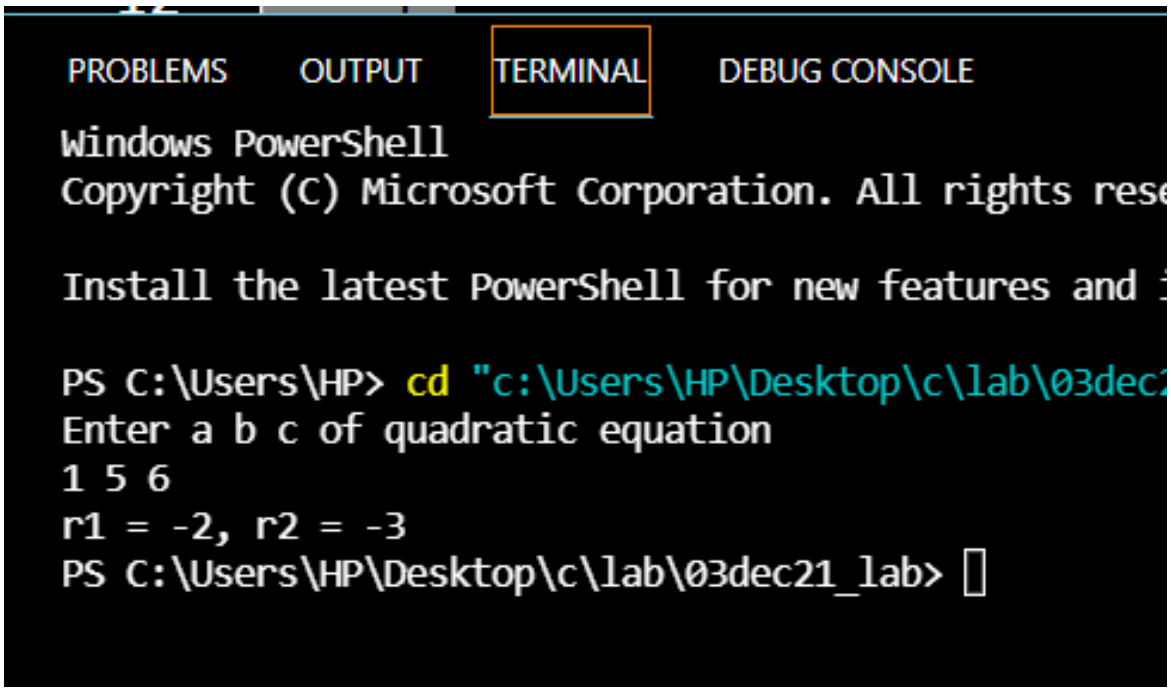


Program 4: Write a program to find roots of a quadratic equation using functions

Code:

```c
#include <stdio.h>
#include <math.h>
// roots of a quadratic equation using function
void roots(int a, int b, int c)
{
    int r1, r2;
    if (((b * b) - 4 * a * c) < 0)
    {
        printf("roots are imaginary");
    }
    else if (((b * b) - 4 * a * c) == 0)
    {
        r1 = r2 = -b / (2 * a);
    }
    else
    {
        r1 = (-b + sqrt((b * b) - 4 * a * c)) / 2 * a;
        r2 = (-b - sqrt((b * b) - 4 * a * c)) / 2 * a;
        printf("r1 = %d, r2 = %d", r1, r2);
    }
}
int main(int argc, char const *argv[])
{
    int x, y, z;
    printf("Enter a b c of quadratic equation\n");
    scanf("%d %d %d", &x, &y, &z);
    roots(x, y, z);
    return 0;
}
```

Output:


PROBLEMS
OUTPUT
TERMINAL
DEBUG CONSOLE
Windows PowerShell
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Install the latest PowerShell for new features and i
PS C:\Users\HP> cd "c:\Users\HP\Desktop\c\lab\03dec
Enter a b c of quadratic equation
1 5 6
r1 = -2, r2 = -3
PS C:\Users\HP\Desktop\c\lab\03dec21_lab>

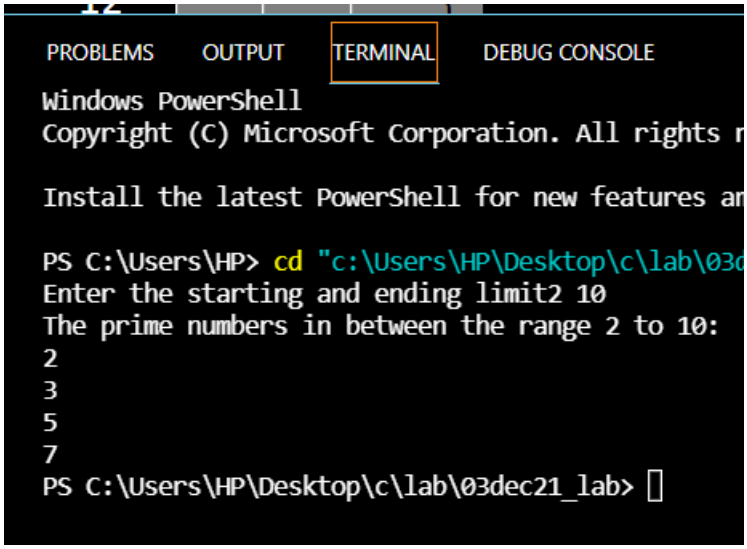
Program 5: Write a program to display all the prime numbers in a entered range using functions

Code:

```
#include <stdio.h>
//prime nos within range using functions
void prime(int a,int n){
    int i, num, count = 0;
    printf("The prime numbers in between the range %d
to %d:\n",a,n);
    for (num = a; num <= n; num++)
    {
        count = 0;
        for (i = 2; i <= num / 2; i++)
        {
            if (num % i == 0)
            {
                count++;
                break;
            }
        }
        if (count == 0 && num != 1)
            printf("%d\n", num);
    }
}
void main()
{
    int start,end;
    printf("Enter the starting and ending limit");
    scanf("%d %d", &start, &end);
    prime(start, end);

}
```

Output: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DEBUG CONSOLE
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Install the latest PowerShell for new features ar
PS C:\Users\HP> cd "c:\Users\HP\Desktop\c\lab\03d
Enter the starting and ending limit2 10
The prime numbers in between the range 2 to 10:
2
3
5
7
PS C:\Users\HP\Desktop\c\lab\03dec21_lab>