



JAIN
DEEMED-TO-BE UNIVERSITY

Programming in C
Lab File

Experiments No.: 14 to 18

Subject Code: 16BCA1C05L
Class: I Year I Semester (BCA)

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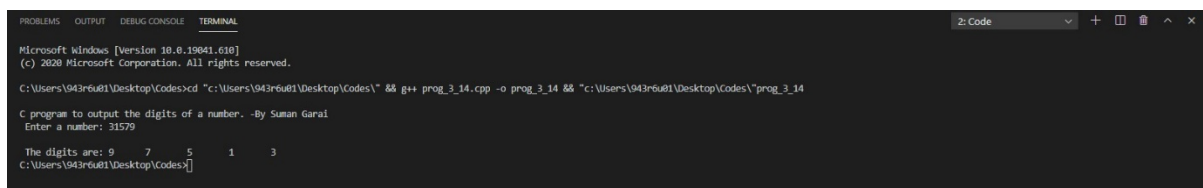
Experiment 14:

C program to output the digits of a number (while).

Code:

```
#include<stdio.h>
main()
{
    int n, r;
    printf("\nC program to output the digits of a
    number. -By Suman Garai");
    printf("\n Enter a number: ");
    scanf("%d",&n);
    printf("\n The digits are: ");
    while (n!=0)
    {
        r = n % 10;
        printf("%d\t",r);
        n = n / 10;
    }
}
```

Output:



```
Microsoft Windows [Version 10.0.19041.610]
(c) 2020 Microsoft Corporation. All rights reserved.

C:\Users\943reud1\Desktop\Codes>cd "c:\Users\943reud1\Desktop\Codes\" && g++ prog_3_14.cpp -o prog_3_14 && "c:\Users\943reud1\Desktop\Codes\prog_3_14

C program to output the digits of a number. -By Suman Garai
Enter a number: 31579

The digits are: 9      7      5      1      3
C:\Users\943reud1\Desktop\Codes>]
```

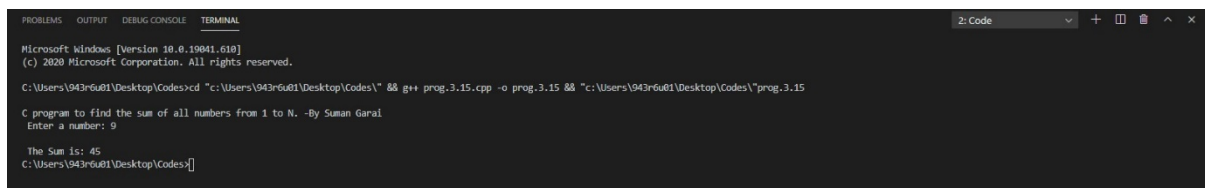
Experiment 15:

C program to find the sum of all numbers from 1 to (while)

Code:

```
#include<stdio.h>
main()
{
    int n, i = 1, s = 0;
    printf("\nC program to find the sum of all
    numbers from 1 to N. -By Suman Garai");
    printf("\n Enter a number: ");
    scanf("%d",&n);
    while (i<=n)
    {
        s = s + i;
        ++i;
    }
    printf("\n The Sum is: %d", s);
}
```

Output:



```
Microsoft Windows [Version 10.0.19041.610]
(c) 2020 Microsoft Corporation. All rights reserved.

C:\Users\943r6u01\Desktop\Codes>cd "c:\Users\943r6u01\Desktop\Codes\" && g++ prog.3.15.cpp -o prog.3.15 && "c:\Users\943r6u01\Desktop\Codes\"prog.3.15

C program to find the sum of all numbers from 1 to N. -By Suman Garai
Enter a number: 9

The Sum is: 45
C:\Users\943r6u01\Desktop\Codes>
```

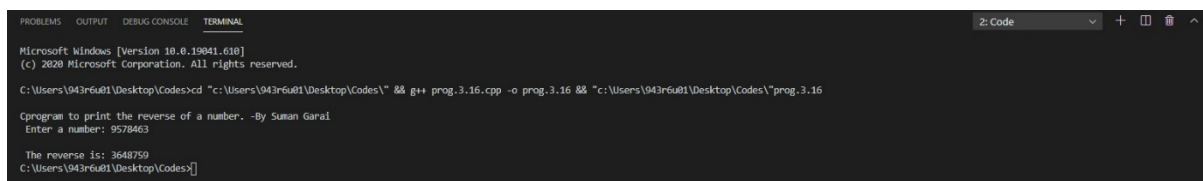
Experiment 16:

C program to reverse a number (while).

Code:

```
#include<stdio.h>
main()
{
    int n, r, s = 0;
    printf("\n(program to print the reverse of a
    number. -By Suman Garai");
    printf("\n Enter a number: ");
    scanf("%d",&n);
    while (n!=0)
    {
        r = n % 10;
        s = s * 10 + r;
        n = n / 10;
    }
    printf("\n The reverse is: %d", s);
}
```

Output:

A screenshot of a Windows Command Prompt window. The title bar shows '2: Code'. The command prompt displays the following text: 'Microsoft Windows [Version 10.0.19041.610] (c) 2020 Microsoft Corporation. All rights reserved. C:\Users\943r6u81\Desktop\Codes>cd "C:\Users\943r6u81\Desktop\Codes\" && g++ prog.3.16.cpp -o prog.3.16 && "C:\Users\943r6u81\Desktop\Codes\"prog.3.16'. The program output is: 'Program to print the reverse of a number. -By Suman Garai Enter a number: 9578463 The reverse is: 3648759 C:\Users\943r6u81\Desktop\Codes>'.

```
Microsoft Windows [Version 10.0.19041.610]
(c) 2020 Microsoft Corporation. All rights reserved.

C:\Users\943r6u81\Desktop\Codes>cd "C:\Users\943r6u81\Desktop\Codes\" && g++ prog.3.16.cpp -o prog.3.16 && "C:\Users\943r6u81\Desktop\Codes\"prog.3.16

Program to print the reverse of a number. -By Suman Garai
Enter a number: 9578463

The reverse is: 3648759
C:\Users\943r6u81\Desktop\Codes>
```

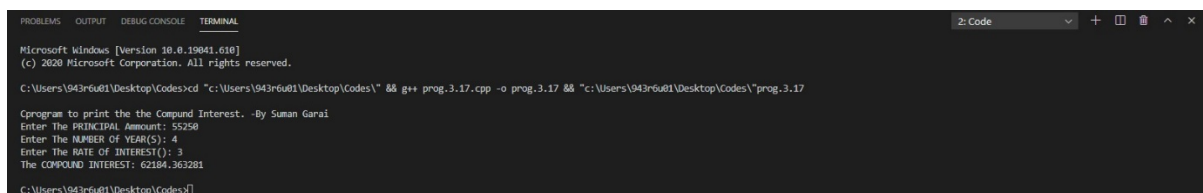
Experiment 17:

C program to calculate compound interest (do-while).

Code:

```
#include<stdio.h>
main()
{
    int i = 0;
    float pi, p, y, r;
    printf("\n\ncprogram to print the the Compund
Interest. -By Suman Garai");
    printf("\nEnter The PRINCIPAL Ammount: ");
    scanf("%f", &p);
    printf("Enter The NUMBER Of YEAR(S): ");
    scanf("%f", &y);
    printf("Enter The RATE Of INTEREST(%): ");
    scanf("%f", &r);
    do
    {
        pi = p * r / 100;
        p = p + pi;
        i++;
    } while (i<y);
    printf("The COMPOUND INTEREST: %f\n", p);
}
```

Output:



```
Microsoft Windows [Version 10.0.19041.610]
(c) 2020 Microsoft Corporation. All rights reserved.

C:\Users\943r6u01\Desktop\Codes>cd "c:\Users\943r6u01\Desktop\Codes\" && g++ prog.3.17.cpp -o prog.3.17 && "c:\Users\943r6u01\Desktop\Codes\"prog.3.17

C:\Users\943r6u01\Desktop\Codes\prog.3.17
cprogram to print the the Compund Interest. -By Suman Garai
Enter The PRINCIPAL Ammount: 55250
Enter The NUMBER Of YEAR(S): 4
Enter The RATE Of INTEREST(%): 3
The COMPOUND INTEREST: 62184.363281

C:\Users\943r6u01\Desktop\Codes>
```

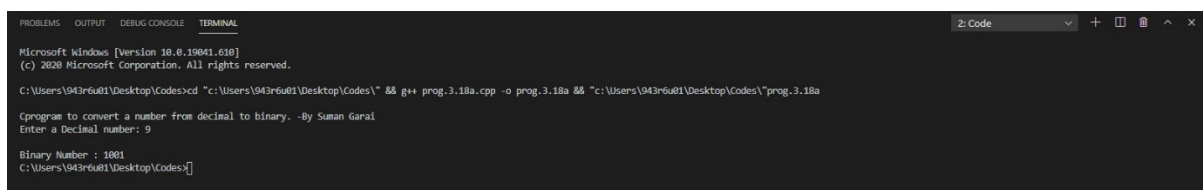
Experiment 18a:

C program to convert from decimal to binary (do-while).

Code:

```
#include <stdio.h>
main()
{
    int num,dec,bin,r,k;
    printf("\n(program to convert a number from
decimal to binary. -By Suman Garai");
    printf("\nEnter a Decimal number: ");
    scanf("%d", &num);
    bin = 0;
    k = 1;
    do
    {
        r = num % 2;
        num = num / 2;
        bin = bin + r * k;
        k = k * 10;
    } while (num!=0);
    printf("\nBinary Number : %d", bin);
}
```

Output:



The screenshot shows a Windows terminal window with the following content:

```
Microsoft Windows [Version 10.0.19041.610]
(c) 2020 Microsoft Corporation. All rights reserved.

C:\Users\943r6u01\Desktop\Codes>cd "c:\Users\943r6u01\Desktop\Codes\" && g++ prog.3.18a.cpp -o prog.3.18a && "c:\Users\943r6u01\Desktop\Codes\prog.3.18a

Program to convert a number from decimal to binary. -By Suman Garai
Enter a Decimal number: 9

Binary Number : 1001
C:\Users\943r6u01\Desktop\Codes>]
```

Experiment 18b:

C program to convert from binary to decimal (do-while).

Code:

```
#include <stdio.h>
#include <math.h>
main()
{
    int num, dec = 0, r, i = 0;
    printf("\nC program to convert a number from
binary to decimal. -By Suman Garai");
    printf("\nEnter a Binary number: ");
    scanf("%d", &num);
    do
    {
        r = num % 10;
        num = num / 10;
        dec = dec + r * pow(2, i);
        i++;
    } while (num != 0);
    printf("\nDecimal Number : %d", dec);
}
```

Output:



The screenshot shows a Windows terminal window with the following text:

```
Microsoft Windows [Version 10.0.19041.618]
(c) 2020 Microsoft Corporation. All rights reserved.

C:\Users\943r6u81\Desktop\Codes>cd "C:\Users\943r6u81\Desktop\Codes\" && g++ prog.3.18.b.cpp -o prog.3.18.b && "C:\Users\943r6u81\Desktop\Codes\prog.3.18.b

C program to convert a number from binary to decimal. -By Suman Garai
Enter a Binary number: 1001

Decimal Number : 9
C:\Users\943r6u81\Desktop\Codes>
```

-- THE END --