

Assignment 1:forLoop & ifelse

Program 1:

A screenshot of a Linux terminal window. The title bar at the top shows 'Activities', 'Terminal', and the date/time 'Sep 3 11:09'. The terminal window has a dark background with green text. The prompt is 'sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment1'. The code being displayed is a C program:

```
/*
 *
 *
 */
Program1: WAP to see a given nuber is a multiple of 3

#include<stdio.h>

void main() {
    int num;
    printf("Enter number:");
    scanf("%d",&num);
    if(num%3==0) {
        printf("%d is multiple of 3\n",num);
    }else {
        printf("%d is not a multiple of 3\n",num);
    }
}
```

 On the left side of the terminal, there is a vertical column of tilde characters (~). At the bottom of the terminal, the status bar shows '"program1.c" 23L, 296B' on the left, '15,2-16' in the center, and 'All' on the right.

The image shows a terminal window on a Linux system. The title bar at the top indicates the window is titled "Terminal" and shows the system date and time as "Sep 3 11:10". The terminal content shows a user named "sandy" at a machine named "sandys-Machine" in the directory "~/Desktop/Study/core2web/C/Assignments/Assignment1". The user runs the command `gcc program1`, which compiles the file `program1.c` into `program1.o`. Then, the user runs `gcc program1.o`, which links the object file into an executable named `a.out`. The user then runs `./a.out`, which prompts for a number. The user enters `10`, and the program outputs `10 is not a multiple of 3`. The user then enters `36`, and the program outputs `36 is multiple of 3`. The terminal window has a dark background and a light-colored text.

```
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment1
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ gcc program1
program1.o  program1.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ gcc program1.o
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ ./a.out
Enter number:10
10 is not a multiple of 3
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ ./a.out
Enter number:36
36 is multiple of 3
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$
```

Program 2:

```
Activities Terminal Sep 3 11:11
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment1

/*
 * Program 2: WAP to print a character whose ASCII value is even
 */

#include<stdio.h>

void main() {

    for(int i=0;i<=127;i++) {

        if(i%2==0) {

            printf("%d:%c\t",i,i);

        }

        printf("\n");

    }

}
```

"program2.c" 20L, 226B 2,13-17 All

```
Activities Terminal Sep 3 11:11
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment1

sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ vim program2.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ gcc program2.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ ./a.out
0: 2: 4: 6: 8: 10:
12:
14: 16: 18: 20: 22: 24: 26:* 28: 30: 32: 34:" 36:$ 38:& 40:( 42:* 44:, 46:. 48:0 50:2 52:45
4:6 56:8 58:: 60:< 62:> 64:@ 66:B 68:D 70:F 72:H 74:J 76:L 78:N 80:P 82:R 84:T 86:V 88:X 90:Z 92:\ 94:^ 96:'9
8:b 100:d 102:f 104:h 106:j 108:l 110:n 112:p 114:r 116:t 118:v 120:x 122:z 124:| 126:~
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$
```

Program 3:

```
Activities Terminal Sep 3 11:12 sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment1
```

```
/*
 * Program 3: WAP to print all even numbers in reverse order and odd numbers in the standard way. Both separately within a range
 */

#include<stdio.h>

void main() {
    int start,end;

    printf("Start:");
    scanf("%d",&start);

    printf("End:");
    scanf("%d",&end);

    for(int i=start,j=end;i<=end,j>=start;i++,j--) {
        if(i%2!=0) {
            printf("%d\t",i);
        }

        if(j%2==0) {
            printf("%d",j);
        }

        printf("\n");
    }
}
```

```
"program3.c" 31L, 445B 15,1-8 All
```

```
Activities Terminal Sep 3 11:12 sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment1
```

```
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ vim program3.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ gcc program3.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ ./a.out
Start:1
End:10
1      10
3      8
5      6
7      4
9      2

sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$
```

Program 4:

```
Activities Terminal Sep 3 11:13
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment1

/*
 * Program4: WAP to find sum of numbers that are divisible by 5 in the given range
 */

#include<stdio.h>

void main() {

    int start,end,sum=0;

    printf("Start:");
    scanf("%d",&start);

    printf("End:");
    scanf("%d",&end);

    for(int i=start;i<=end;i++) {

        if(i%5==0) {
            sum+=i;
        }

    }

    printf("Sum of numbers divisible by 5 in between %d and %d is %d\n",start,end,sum);

}

"program4.c" 27L, 406B 26,68-82 All
```

```
Activities Terminal Sep 3 11:14
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment1

sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ vim program4.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ gcc program4.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ ./a.out
Start:1
End:50
Sum of numbers divisible by 5 in between 1 and 50 is 275
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$
```

Program 5:

```
Activities Terminal Sep 3 11:14
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment1

/*
 * Program 5: WAP to take number input and print all the factors of that number
 */

#include<stdio.h>

void main() {
    int num;

    printf("Enter number:");
    scanf("%d",&num);

    printf("Factors of %d are:",num);

    for(int i=1;i<=num;i++) {
        if(num%i==0) {
            printf("%d ",i);
        }
    }
    printf("\n");
}

"program5.c" 26L, 331B 2,13-17 All
```

```
Activities Terminal Sep 3 11:16
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment1

sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ vim program
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ vim program5.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ gcc program5.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ ./a.out
Enter number:5
Factors of 5 are:1 5
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ ./a.out
Enter number:20
Factors of 20 are:1 2 4 5 10 20
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$
```

Program 6:

```
Activities Terminal Sep 3 11:17
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment1

/*
 * Program 6: WAP to calculate factorial of a given number
 */

#include<stdio.h>

void main() {
    int num;

    printf("Enter number:");
    scanf("%d",&num);

    int fact=1;

    for(int i=2;i<=num;i++) {
        fact = fact * i;
    }

    printf("Factorial of %d is :%d\n",num,fact);
}

"program6.c" 23L, 291B 2,13-17 All
```

```
Activities Terminal Sep 3 11:17
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment1

sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ ./a.out
Enter number:5
Factorial of 5 is :120
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ ./a.out
Enter number:7
Factorial of 7 is :5040
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ █
```

Program 7:

```
Activities Terminal Sep 3 11:23
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment1

/*
 * Program 7: WAP to calculate LCM of given two numbers
 *
 */

#include<stdio.h>

void main() {

    int num1,num2;

    printf("Enter num1:");
    scanf("%d",&num1);

    printf("Enter num2:");
    scanf("%d",&num2);

    int max;

    if(num1>num2)
        max = num1;
    else
        max = num2;

    for(;;) {

        if(max%num1==0 && max%num2==0) {

            break;

        }else {

            max++;

        }

    }

    printf("LCM of %d and %d is :%d\n",num1,num2,max);

}

"program7.c" 38L, 444B 32,9-37 All
```

```
Activities Terminal Sep 3 11:24
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment1

sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ ./a.out
Enter num1:12
Enter num2:15
LCM of 12 and 15 is :60
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ ./a.out
Enter num1:13
Enter num2:17
LCM of 13 and 17 is :221
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$
```

Program 8:

```
Activities Terminal Sep 3 11:24
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment1

/*
 * Program 8: WAP take two characters if these characters are equal then print the same but if they are unequal then print their difference...
 */

#include<stdio.h>

void main() {

    char ch1,ch2;

    printf("Enter ch1:");
    scanf("%c",&ch1);

    printf("Enter ch2:");
    scanf("%c",&ch2);

    if(ch1==ch2) {
        printf("%c\n",ch1);
    }else {
        printf("difference of two characters is %d \n",ch2-ch1);
    }

}

"program8.c" 24L, 422B 16,10-24 All
```

```
Activities Terminal Sep 3 11:26
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment1

sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ ./a.out
Enter ch1:A
Enter ch2:A
A
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ ./a.out
Enter ch1:A
Enter ch2:D
difference of two characters is 3
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$
```


Program 9:

```
Activities Terminal Sep 4 10:13
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment1
/*
 * Program 9 : WAP to calculate squareroot of given number within range 100 to 300
 */

#include<stdio.h>

void main() {
    int num;

    printf("Enter number:");
    scanf("%d",&num);

    float sqrt;

    for(float i=0.0001;i*i<=num;i+=0.0001) {
        sqrt=i;
    }

    printf("Square root of number is : %.2f\n",sqrt);
}

"program9.c" 23L, 324B 22,40-54 All
```

```
Activities Terminal Sep 4 10:15
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment1
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ vim program9.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ gcc program9.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ ./a.out
Enter number:150
Square root of number is : 12.25
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ ./a.out
Enter number:144
Square root of number is : 12.00
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ ./a.out
Enter number:225
Square root of number is : 15.00
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$
```

Program 10:

```
Activities Terminal Sep 3 11:29
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment1

/*
 * Program 10:WAP to print numbers in given range and their multiplicatiove inverse.
 */

#include<stdio.h>

void main() {
    int start,end;

    printf("Start:");
    scanf("%d",&start);

    printf("End:");
    scanf("%d",&end);

    for(int i=start;i<=end;i++) {
        printf("%d = %0.2f\n",i,(float)1/i);
    }
}

program10.c" 22L, 318B 20,20-41 All
```

```
Activities Terminal Sep 3 11:31
sandy@sandys-Machine: ~/Desktop/Study/core2web/C/Assignments/Assignment1

sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ gcc program10.c
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$ ./a.out
Start:1
End:15
1 = 1.0000
2 = 0.5000
3 = 0.3333
4 = 0.2500
5 = 0.2000
6 = 0.1667
7 = 0.1429
8 = 0.1250
9 = 0.1111
10 = 0.1000
11 = 0.0909
12 = 0.0833
13 = 0.0769
14 = 0.0714
15 = 0.0667
sandy@sandys-Machine:~/Desktop/Study/core2web/C/Assignments/Assignment1$
```