

Operators in C

Lecture 2 Assignments

1. Code the following:

- Prompt the user to enter a two-digit number
- Display the number with the digits reversed

```
2
3
4  /******
5  This program provides the reverse of the input by the user.
6  *****
7
8  int main(void)
9
10 {
11     //declaring the variables
12     int n, dig_1, dig_2, rev, orig;
13
14     // asks the user for the input
15     printf("Enter a 2-digit number:\n ");
16     scanf("%d",&n);
17
18     /*the values was stored in the variable
19     orig */
20     /*utilized modulo operator which will take
21     the remainder of the number */
22     /*divided the number by 10 which takes the
23     whole number */
24
25     orig = n;
26     dig_1 = n %10;
27     n= n/10;
28     dig_2= n %10;
29     n=n/10;
30
31     /*multiplied by tens, ones took the sum of the
32     two and store in the variable named rev */
33
34     /*for example, user input = 57; dig_1= 57%10
35     q = 5; r. 7 then 57/10 = 5 ; dig_2 = 5%10
36     q=0; r=5 ; reverse= 7(10) + 5(1) = 75*/
37
38     //result was printed
39
40     rev = dig_1*10 + dig_2*1;
41     printf("\nThe reversed number of %d",orig);
42     printf(" is %d\n",rev);
43 }
44
```

```
Select "C:\Users\acer\OneDrive - University of the Philippines\Desktop\kkkk\b
Enter a 2-digit number:
89

The reverse number of 89 is 98
Process returned 0 (0x0)   execution time : 2.586 s
Press any key to continue.
```

2. Extend the code in item 1, such that it reverses a 3-digit number.

```
1  #include<stdio.h>
2
3  /******
4  This program provides the reverse of the input by the user.
5  *****/
6
7  int main(void)
8  {
9      //declaring the variables
10     int n, dig_1, dig_2, dig_3, rev, orig;
11
12     // asks the user for the input
13     printf("Enter a 3-digit number:\n ");
14     scanf("%d",&n);
15
16     /*the values was stored in the variable
17     orig */
18
19     /*utilized modulo operator which will take
20     the remainder of the number */
21     /*divided the number by 10 which takes the
22     whole number */
23
24     orig = n;
25     dig_1 = n %10;
26     n= n/10;
27     dig_2= n %10;
28     n=n/10;
29     dig_3 = n%10;
30     n=n/10;
31
32     /*multiplied by one hundred, ten and one; took the sum
33     of the three variables and store in the variable named rev */
34
35     /*for example, user input = 357; dig_1= 357%10
36     q = 35; r. 7 then 357/10 = 35 ; dig_2 = 35%10
37     q=3; r.5 ; dig_3= 3%10 = q=0 ; r.3
38     reverse= 7(100) + 5(10) + 3(1)= 753*/
39
40     //result was printed
41     rev = dig_1*100 + dig_2*10 + dig_3*1;
42     printf("\nThe reversed number of %d",orig);
43     printf(" is %d\n",rev);
44
45 }
46
47
```

```
"C:\Users\acer\OneDrive - University of the Philippines\Desktop\CMSC-21\L
Enter a 3-digit number:
879

The reversed number of 879 is 978

Process returned 0 (0x0)   execution time : 6.172 s
Press any key to continue.
```

3. Provide the output of the following codes, given that i, j, and k are integer variables.

```
1  #include <stdio.h>
2
3  /******
4  This program solves for the value of the following:
5  *****/
6
7  int main(void)
8  {
9      //declared the variables
10     int i, j, k;
11
12     /*assigned the values and prints
13     the result */
14
15     i= 3; j=4; k=5;
16     printf("a) %d\n", i<j || ++j < k);
17
18     i= 7; j= 8 ; k=9;
19     printf("b) %d\n", i-7 && j++ < k);
20
21     i= 7; j= 8 ; k=9;
22     printf("c) %d\n", (i=j) || (j==k));
23     printf("c.1) %d%d%d\n", i,j,k);
24
25     i= j= k=1;
26     printf("d) %d\n", ++i || ++j && ++k);
27     printf("d.1) %d%d%d\n", i,j,k);
28
29     return 0;
30
31 }
32
```

```
"C:\Users\acer\OneDrive - University of the Philippines\Desktop\CMSC-21\Lecture
a) 1
b) 0
c) 1
c.1) 889
d) 1
d.1) 211

Process returned 0 (0x0)   execution time : 0.049 s
Press any key to continue.
```