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CMSC 21 - 1

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Operators in C
Lecture 2 Assignments

1. Code the following:
    a. Prompt the user to enter a two-digit number
    b. Display the number with the digits reversed

Screenshot of the code:

```c
//Lecture 2 Assignment
//No.1
//Reverses a 2-Digit Number
#include <stdio.h>

int main()
{
    int first_digit, second_digit;  //declare variables as integers

    //"%ld" corresponds to one digit
    printf("Please enter a 2-digit number: ");      //prompt the user for an input
    scanf("%ld%ld", &first_digit, &second_digit);   //assign each value (digit) to their corresponding variables, respectively

    printf("Reverse: %ld%ld\n", second_digit, first_digit);        //reversing the positions of the two digits

    return 0;
}
```

Example Outputs:

```
Please enter a 2-digit number: 75
Reverse: 57
```

```
Please enter a 2-digit number: 28
Reverse: 82
```

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

Screenshot of the code:

```c
//Lecture 2 Assignment
//No.2
//Reverses a 3-digit number
#include <stdio.h>

int main()
{
    int first_digit, second_digit, last_digit;  //declare variables as integers

    //"%ld" corresponds to one digit
    printf("Please enter a 3-digit number: ");                  //prompt the user for an input
    scanf("%ld%ld%ld", &first_digit, &second_digit, &last_digit);   //assigning each value (digit) to each variable, respectively

    printf("Reverse: %ld%ld%ld\n",last_digit, second_digit, first_digit);       //reversing the positions of first and last digits, retaining the second digit

    return 0;
}
```

Example Outputs:

```
Please enter a 3-digit number: 123
Reverse: 321
```

```
Please enter a 3-digit number: 584
Reverse: 485
```

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

```
a) i = 3; j = 4; k = 5;
   printf("%d", i < j || ++j < k);
b) i = 7; j = 8; k = 9;
   printf("%d",i - 7 && j++ < k);
c) i = 7; j = 8; k = 9;
   printf("%d", (i = j) || (j == k));
   printf("%d %d %d", i, j, k);
d) i = j = k = 1;
   printf("%d", ++i || ++j && ++k);
   printf("%d %d %d", i, j, k);
```

Screenshot of the code:

```
1  //Lecture 2 Assignment
2  //No.3
3
4  #include <stdio.h>
5
6  int main(void)
7  {
8
9      int i, j, k; //declaring variables as integers
10
11     printf("3.The outputs for each code:\n");
12     //a
13     i = 3; j = 4; k = 5;
14     printf("\n\ta) %d \n ", i < j || ++j < k);
15
16     //b
17     i = 7; j = 8; k = 9;
18     printf("\n\tb) %d \n ", i - 7 && j++ < k);
19
20     //c
21     i = 7; j = 8; k = 9;
22     printf("\n\tc) %d \n ", (i = j) || (j == k));
23     printf("\n\t   %d %d %d \n ", i, j, k);
24
25     //d
26     i = j = k = 1;
27     printf("\n\td) %d \n ", ++i || ++j && ++k);
28     printf("\n\t   %d %d %d \n ", i, j, k);
29
30     return 0;
31 }
32
```

Output:

```
3.The outputs for each code:

        a) 1

        b) 0

        c) 1

           8 8 9

        d) 1

           2 1 1
```