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CMSC 21 Assignment 2

1. Code the following:

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

```c
#include <stdio.h>

int main(){
    int input,first,second,third;               //declares variables
    printf("Insert three-digit number: ");
    scanf("%d", &input);                        //takes 3-digit input from the user

    first = (input / 100) % 10;                 //gets the hundreds digit
    second = (input / 10) % 10;                 //gets the tens digit
    third = input % 10;                         //gets the ones digit

    //prints the result
    printf("Reversed digits: %d%d%d", third, second, first);

}
```

Output:

```
Insert two-digit number: 13
Reversed digits: 31
```

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

```c
#include <stdio.h>

int main(){
    int input,first,second,third;               //declares variables
    printf("Insert three-digit number: ");
    scanf("%d", &input);                        //takes 3-digit input from the user

    first = (input / 100) % 10;                 //gets the hundreds digit
    second = (input / 10) % 10;                 //gets the tens digit
    third = input % 10;                         //gets the ones digit

    //prints the result
    printf("Reversed digits: %d%d%d", third, second, first);

}
```

Output:

```
Insert three-digit number: 435
Reversed digits: 534
```

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);
```

```
#include <stdio.h>

int main(){
    int i,j,k;
    i = 3; j = 4; k = 5;

    printf("%d", i < j || ++j < k);

}
```

Output: 1

b)
```
i = 7; j = 8; k = 9;
printf("%d",i - 7 && j++ < k);
```

```
#include <stdio.h>

int main(){
    int i,j,k;
    i = 7; j = 8; k = 9;

    printf("%d",i - 7 && j++ < k);
}
```

Output: 0

c)
```
i = 7; j = 8; k = 9;
printf("%d", (i = j) || (j == k));
printf("%d %d %d", i, j, k);
```

```
#include <stdio.h>

int main(){
    int i,j,k;
    i = 7; j = 8; k = 9;

    printf("%d\n", (i = j) || (j == k));
    printf("%d %d %d", i, j, k);

}
```

Output: 1
8 8 9

d)
```
i = j = k = 1;
printf("%d", ++i || ++j && ++k);
printf("%d %d %d", i, j, k);
```

```
#include <stdio.h>

int main(){
    int i,j,k;
    i = j = k = 1;

    printf("%d\n", ++i || ++j && ++k);
    printf("%d %d %d", i, j, k);

}
```

Output: 1
2 1 1