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BS Computer Science I

2021-00252

CMSC 21

1.

```c
#include <stdio.h>

int main(void){
    //Initialize the variables
    int tens = 10;
    int num, firstDigit, lastDigit, reversed;

    printf("Enter a two-digit number: ");
    scanf("%d", &num);                              //Prompt user for input

    lastDigit = num % tens;                         //Get the last digit using modulo
    firstDigit = num / tens;                        //Get the first digit using division

    reversed = firstDigit += lastDigit *= tens;     //Calculate for the reversed value

    printf("%d", reversed);

    return 0;
}
```

Output:

```
C:\Users\user\Desktop>gcc -o a as1.c

C:\Users\user\Desktop>a
Enter a two-digit number: 25
52
```

2.

```c
#include <stdio.h>

int main(void){
    //Initialize the variables
    int tens = 10;
    int num, firstDigit, lastDigit, mid, reversed;

    printf("Enter a three-digit number: ");
    scanf("%d", &num);                                      //Prompt user for input

    lastDigit = num % tens;                                 //Get the last digit using modulo
    firstDigit = num /(tens * tens);                        //Get the first digit by division
    mid = (num % (tens * tens)) - lastDigit;                //Get the the tens value using this formula

    reversed = firstDigit += mid += lastDigit *= tens *= tens;      //Calculate for the reversed value

    printf("%d", reversed);

    return 0;
}
```

Output:

```
C:\Users\user\Desktop>gcc -o b as2.c

C:\Users\user\Desktop>b
Enter a three-digit number: 123
321
```

3. a. 1
   b. 0
   c. 1
      8 8 9
   d. 1
      2 1 1