

Operators in C

Lecture 2 Assignments

1. Code the following:

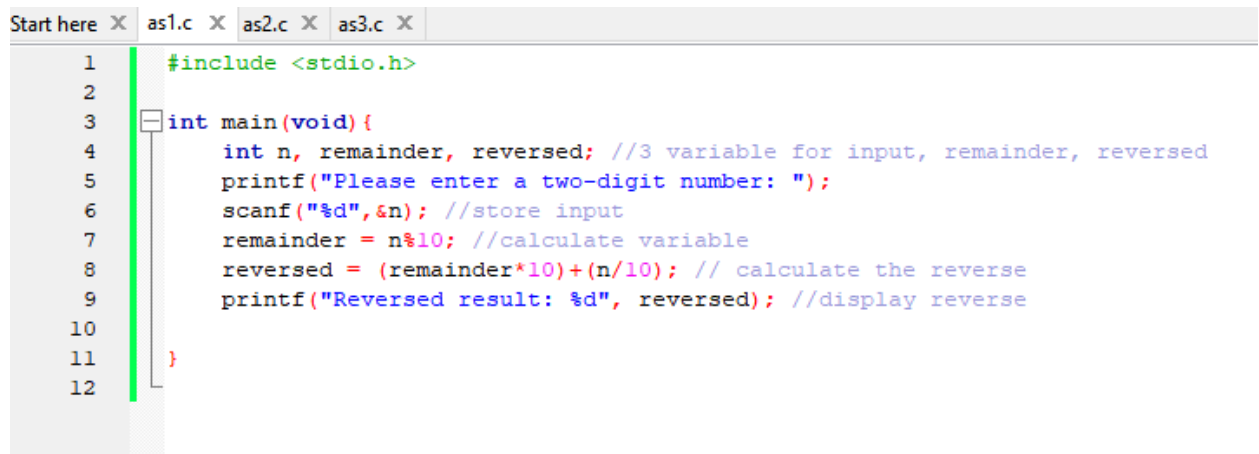
- Prompt the user to enter a two-digit number
- Display the number with the digits reversed

Example:

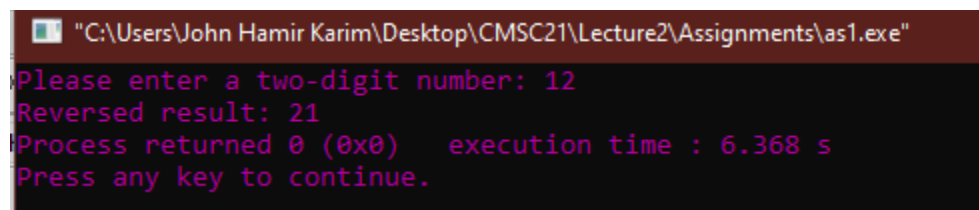
Please enter a 2-digit number: 75

Reverse: 57

Save your code as as1.c



```
Start here X as1.c X as2.c X as3.c X
1      #include <stdio.h>
2
3      int main(void) {
4          int n, remainder, reversed; //3 variable for input, remainder, reversed
5          printf("Please enter a two-digit number: ");
6          scanf("%d",&n); //store input
7          remainder = n%10; //calculate variable
8          reversed = (remainder*10)+(n/10); // calculate the reverse
9          printf("Reversed result: %d", reversed); //display reverse
10
11      }
12
```



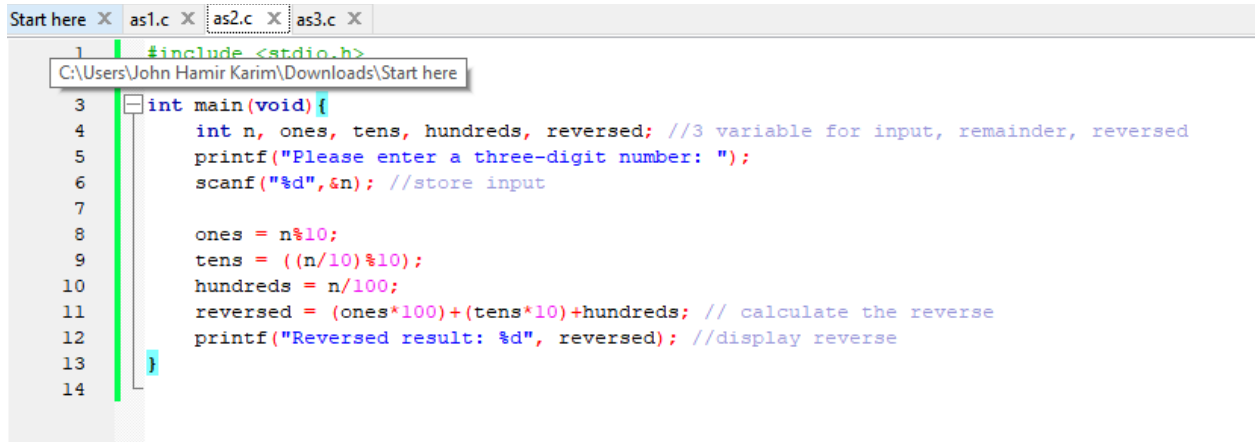
```
"C:\Users\John Hamir Karim\Desktop\CMSC21\Lecture2\Assignments\as1.exe"
Please enter a two-digit number: 12
Reversed result: 21
Process returned 0 (0x0)   execution time : 6.368 s
Press any key to continue.
```

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

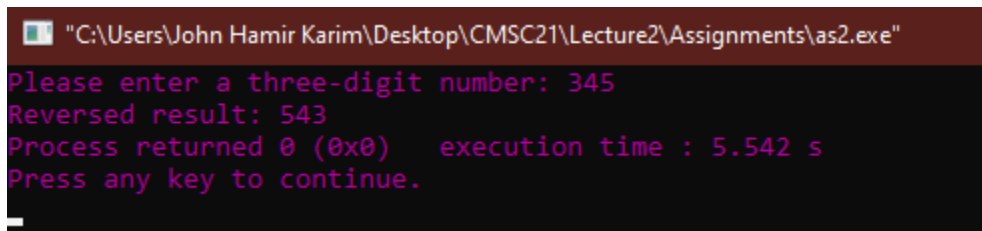
Example:

Please enter a 3-digit number: 123

Reverse: 321 Save your code as as2.c



```
1  #include <stdio.h>
2
3  int main(void){
4      int n, ones, tens, hundreds, reversed; //3 variable for input, remainder, reversed
5      printf("Please enter a three-digit number: ");
6      scanf("%d", &n); //store input
7
8      ones = n%10;
9      tens = (n/10)%10;
10     hundreds = n/100;
11     reversed = (ones*100)+(tens*10)+hundreds; // calculate the reverse
12     printf("Reversed result: %d", reversed); //display reverse
13 }
14
```



```
"C:\Users\John Hamir Karim\Desktop\CMSC21\Lecture2\Assignments\as2.exe"
Please enter a three-digit number: 345
Reversed result: 543
Process returned 0 (0x0)   execution time : 5.542 s
Press any key to continue.
```

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;

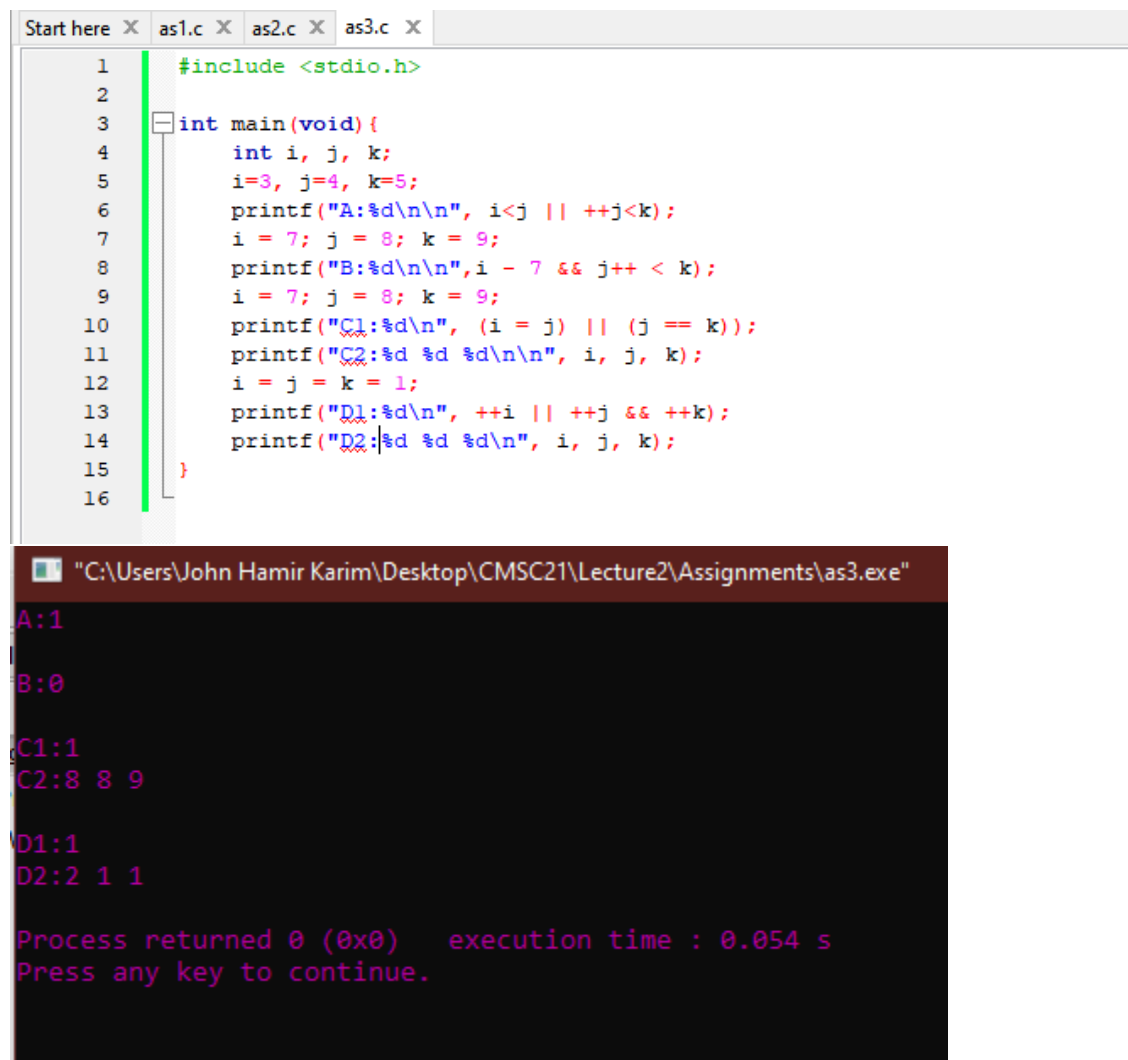
```
printf("%d", (i = j) || (j == k));
```

```
printf("%d %d %d", i, j, k);
```

d) i = j = k = 1;

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

```
printf("%d %d %d", i, j, k);
```



The image shows a C program in a code editor and its execution output in a command prompt window.

Code Editor (as3.c):

```
1  #include <stdio.h>
2
3  int main(void) {
4      int i, j, k;
5      i=3, j=4, k=5;
6      printf("A:%d\n\n", i<j || ++j<k);
7      i = 7; j = 8; k = 9;
8      printf("B:%d\n\n", i - 7 && j++ < k);
9      i = 7; j = 8; k = 9;
10     printf("C1:%d\n", (i = j) || (j == k));
11     printf("C2:%d %d %d\n\n", i, j, k);
12     i = j = k = 1;
13     printf("D1:%d\n", ++i || ++j && ++k);
14     printf("D2:%d %d %d\n", i, j, k);
15 }
16
```

Command Prompt Output:

```
"C:\Users\John Hamir Karim\Desktop\CMSC21\Lecture2\Assignments\as3.exe"
A:1
B:0
C1:1
C2:8 8 9
D1:1
D2:2 1 1

Process returned 0 (0x0)   execution time : 0.054 s
Press any key to continue.
```