Christian Justin J. Salinas Instructor Ara Abigail Ambita CMSC 21 – 2 Lecture 2 Assignment

1. C Program that reverses a two-digit number

```
#include <stdio.h> /* Include stdio.h for getting inputs
 2
           and printing outputs properly. */
 3
 4
      int main() // Execution of the program starts here
 5
 6
           /* Declare variables with integer type */
 7
           int num, reversed;
 8
 9
          /* Prompt the user to enter a 2-digit number */
10
          printf("Please enter a 2-digit number: ");
11
          /* Read input and take two digits (truncation) from input */
12
           scanf("%2d", &num);
13
14
15
           /* Modulus division to get the first reversed digit and add it */
           reversed = reversed * 10 + num % 10;
16
17
          /* Remove current last digit from num */
18
          num = num / 10;
19
20
           /* Modulus division to get the second reversed digit and add it */
21
           reversed = reversed * 10 + num % 10;
          /* Remove last digit from num */
22
23
          num = num / 10;
24
25
           /* Display the output with the two-digits reversed */
           printf("Reverse: %2d", reversed);
26
27
28
           /* Indicate that the program ends here */
29
           return 0;
30
31
```

Sample output of the program above:

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

2. C Program that reverses a three-digit number

```
#include <stdio.h> /* Include stdio.h for getting inputs
           and printing outputs properly. */
 3
 4
       int main() // Execution of the program starts here
 5
     □ {
           /* Declare variables with integer type */
 6
 7
           int num, reversed;
 8
 9
           /* Prompt the user to enter a 3-digit number */
           printf("Please enter a 3-digit number: ");
10
11
           /* Read input and take three digits (truncation) from input */
12
13
           scanf("%3d", &num);
14
15
           /* Modulus division to get the first reversed digit and add it */
16
          reversed = reversed * 10 + num % 10;
17
           /* Remove current last digit from num */
18
          num = num / 10;
19
20
          /* Modulus division to get the second reversed digit and add it */
21
           reversed = reversed * 10 + num % 10;
22
           /* Remove current last digit from num */
23
           num = num / 10;
24
25
           /* Modulus division to get the third reversed digit and add it */
           reversed = reversed * 10 + num % 10;
26
27
           /* Remove last digit from num */
28
           num = num / 10;
29
30
           /* Display the output with the two-digits reversed */
           printf("Reverse: %3d", reversed);
31
32
33
           /* Indicate that the program ends here */
34
           return 0;
35
```

Sample output of the program above:

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

3. C Program that provide the output of the following codes with given int i, j, k

```
1
       #include <stdio.h> /* Include stdio.h for getting inputs
 2
           and printing outputs properly. */
 3
       int main() // Execution of the program starts here
 4
 5
 6
           /* Declare variables with integer type */
 7
           int i, j, k;
 8
 9
           // a
           i = 3; j = 4; k = 5;
10
11
           printf("%d", i < j || ++j < k);
12
           // b
           i = 7; j = 8; k = 9;
13
           printf("%d", i - 7 \& \& j++ < k);
14
15
           // c
16
           i = 7; j = 8; k = 9;
17
           printf("%d", (i = j) || (j == k));
18
           printf("%d %d %d", i, j, k);
19
           // d
20
           i = j = k = 1;
21
           printf("%d", ++i || ++j && ++k);
22
           printf("%d %d %d", i, j, k);
23
24
           /* Indicate that the program ends here */
25
           return 0;
26
27
```

Outputs:

- a)
- b) 0 c) 18 8 9
- c) 18 8 9 d) 12 1 1