

# CMSC 21 – Lecture 3 Assignment

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1.

```
Start here X as1.c X as2.c X
1  #include <stdio.h>
2  int main(void)
3  {
4      int age;
5      printf("Please type in your age. \n> ");
6      scanf("%d", &age);
7      if (age >= 13 && age <= 19) {
8          printf("\nCongratulations! You are a teenager.\n");
9      }
10     else {
11         printf("\nIt seems that you are not a teenager.\n");
12     }
13 }
14
```

2.

```
Start here X as1.c X as2.c X
1  #include <stdlib.h>
2  #include <stdio.h>
3  void main() {
4      long num, div, nl;
5      int flag, digit, pos, tot_dig;
6
7      printf("Greetings! This program is designed to convert numbers into words.\nEnter a number.\n> ");
8      scanf("%ld", &num);
9
10     if (num == 0) {
11         printf("Zero\n");
12         exit(0);
13     }
14
15     if (num > 99999) {
16         printf("Please enter a number between 0 and 100000.\n");
17         exit(0);
18     }
19
20     tot_dig = 0;
21     div = 1;
22     nl = num;
23
24     while (nl > 9) {
```

```
Start here X as1.c X as2.c X
25     nl = nl / 10;
26     div = div * 10;
27
28     tot_dig++;
29 }
30
31 tot_dig++;
32 pos = tot_dig;
33
34 while (num != 0) {
35     digit = num / div;
36     num = num % div;
37     div = div / 10;
38     switch(pos) {
39         case 1:
40             if (digit == 1)
41                 flag = 1;
42             else {
43                 flag = 0;
44             }
45             switch(digit) {
46                 case 2: printf("Twenty ");break;
47                 case 3: printf("Thirty ");break;
48
```

```
Start here X as1.c X as2.c X
49         case 4: printf("Forty ");break;
50         case 5: printf("Fifty ");break;
51         case 6: printf("Sixty ");break;
52         case 7: printf("Seventy ");break;
53         case 8: printf("Eighty ");break;
54         case 9: printf("Ninety ");
55     }
56     break;
57     case 1:
58         if (flag == 1) {
59             flag = 0;
60             switch(digit) {
61                 case 0: printf("Ten ");break;
62                 case 1: printf("Eleven ");break;
63                 case 2: printf("Twelve ");break;
64                 case 3: printf("Thirteen ");break;
65                 case 4: printf("Fourteen ");break;
66                 case 5: printf("Fifteen ");break;
67                 case 6: printf("Sixteen ");break;
68                 case 7: printf("Seventeen ");break;
69                 case 8: printf("Eighteen ");break;
70                 case 9: printf("Nineteen ");
71
```

```
Start here X as1.c X as2.c X
73     }
74     } else {
75         switch(digit) {
76             case 1: printf("One ");break;
77             case 2: printf("Two ");break;
78             case 3: printf("Three ");break;
79             case 4: printf("Four ");break;
80             case 5: printf("Five ");break;
81             case 6: printf("Six ");break;
82             case 7: printf("Seven ");break;
83             case 8: printf("Eight ");break;
84             case 9: printf("Nine ");
85         }
86     }
87
88     if (pos == 4)
89         printf("Thousand ");
90     break;
91
92     case 3:
93         if (digit > 0) {
94             switch(digit) {
95                 case 1: printf("One ");break;
96                 case 2: printf("Two ");break;
```

```
Start here X as1.c X as2.c X
96         case 2: printf("Two ");break;
97         case 3: printf("Three ");break;
98         case 4: printf("Four ");break;
99         case 5: printf("Five ");break;
100        case 6: printf("Six ");break;
101        case 7: printf("Seven ");break;
102        case 8: printf("Eight ");break;
103        case 9: printf("Nine ");
104    }
105    printf("hundred ");
106 }
107 break;
108 }
109 pos--;
110 }
111 if (pos == 4 && flag == 0)
112     printf("Thousand");
113 else if (pos == 4 && flag == 1)
114     printf("Ten Thousand");
115
116 if (pos == 1 && flag == 1)
117     printf("Ten ");
118 }
119
```

GitHub link: <https://github.com/front-git/CMSC21/tree/main/Lecture%203/Assignments>