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CMSC 21
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Selection Statements
Lecture 3 Assignments

1. The following `if` statement is unnecessarily complicated. Simplify it as much as possible.
(Hint: The entire statement can be replaced by a single assignment.)

```
if (age >= 13)
     if (age <= 19)
          teenager = true;
     else
          teenager = false;
else if (age < 13)
     teenager = false;
```

Save your code as `as1.c`

```c
#include <stdio.h>
#include <stdbool.h>

int main(void)
{
   int age;
   bool teenager = false;

   printf("Age: ");
   scanf("%d", &age);

   if (age >= 13 && age <= 19) {
       teenager = true;
   }

   printf("Teenager: %s\n", teenager ? "true" : "false");

   return 0;
}
```

2. Write a C program that does the following:
Enter a two-digit number: 25
Number entered in words: twenty-five
Hint:
• Break the number into two digits.
• Note: `11` and `19` require special treatment.
Save your code as `as2.c`

```c
#include <stdio.h>

int main(void)
{
   int n;

   printf("Enter a two-digit number: ");
   scanf("%d", &n);

   printf("You entered the number ");

   switch (n / 10) {
       case 1:
           switch (n % 10) {
               case 0:
                   printf("ten.\n");
                   return 0;
               case 1:
                   printf("eleven.\n");
                   return 0;
               case 2:
                   printf("twelve.\n");
                   return 0;
               case 3:
                   printf("thirteen.\n");
                   return 0;
               case 4:
                   printf("fourteen.\n");
                   return 0;
               case 5:
                   printf("fifteen.\n");
                   return 0;
```

```
            case 6:
                printf("sixteen.\n");
                return 0;
            case 7:
                printf("seventeen.\n");
                return 0;
            case 8:
                printf("eighteen.\n");
                return 0;
            case 9:
                printf("nineteen.\n");
                return 0;
        }
    case 2:
        printf("twenty");
        break;
    case 3:
        printf("thirty");
        break;
    case 4:
        printf("forty");
        break;
    case 5:
        printf("fifty");
        break;
    case 6:
        printf("sixty");
        break;
    case 7:
        printf("seventy");
        break;
    case 8:
        printf("eighty");
        break;
    case 9:
        printf("ninety");
        break;
}

switch (n % 10) {
```

```
        case 1:
            printf("-one");
            break;
        case 2:
            printf("-two");
            break;
        case 3:
            printf("-three");
            break;
        case 4:
            printf("-four");
            break;
        case 5:
            printf("-five");
            break;
        case 6:
            printf("-six");
            break;
        case 7:
            printf("-seven");
            break;
        case 8:
            printf("-eight");
            break;
        case 9:
            printf("-nine");
            break;
    }

    printf(".\n");

    return 0;
}
```

github link:https://github.com/ellabellegarcia/CMSC21/tree/main/Lecture3/Assignments