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.)

Start here | as1.c | as2.c

```c
#include <stdio.h>

int main(void){
    int age;
    char teenager[20];
    printf("Enter age: ");
    int printf(const char* __restrict__ _Format, ...)
/*
    if(age >= 13){
        if(age <= 19){
            strcpy(teenager, "true");}
        else{
            strcpy(teenager, "false");}}
    else if(age < 13){
        strcpy(teenager, "false");}
*/

    if (age >= 13 && age <= 19){
        strcpy(teenager, "true");
        }
    else{
        strcpy(teenager, "false");
        }
    printf("is teenager: %s\n", teenager);

    return 0;
}
```

```
"C:\Users\John Hamir Karim\Desktop\CMSC21\Lecture3\as1.exe"
Enter age: 10
is teenager: false

Process returned 0 (0x0)   execution time : 5.911 s
Press any key to continue.
```

```
"C:\Users\John Hamir Karim\Desktop\CMSC21\Lecture3\as1.exe"
Enter age: 13
is teenager: true

Process returned 0 (0x0)   execution time : 3.794 s
Press any key to continue.
```

2. Write a C program that does the following:

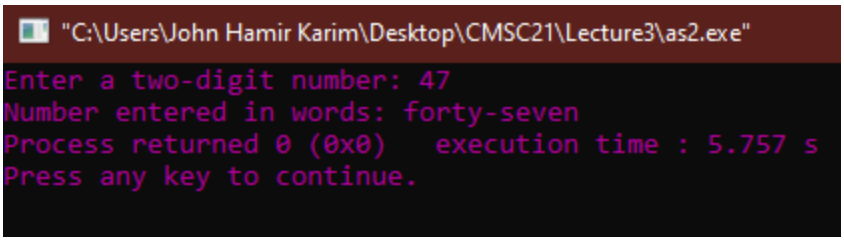
Enter a two-digit number: 25

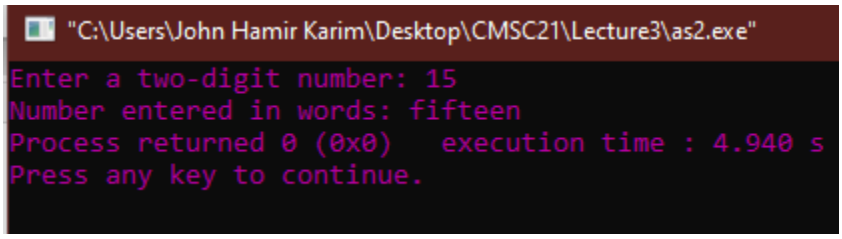
Number entered in words: twenty-five

Start here | as1.c | as2.c

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

int main(void){
    int num, ones, tens; char tens_str[10], ones_str[10];
    printf("Enter a two-digit number: ");
    scanf("%d", &num);
    printf("Number entered in words: ");

    ones = num%10; tens = num/10;

    switch (ones){

    switch (tens){

    if (num < 14 || num == 15){
        switch (ones){
            case 0:
                printf("ten");break;
            case 1:
                printf("eleven"); break;
            case 2:
                printf("twelve"); break;
            case 3:
                printf("thirteen");break;
            default:
                printf("fifteen");break;}}

    else if(num >=14 && num <= 19){
        printf("%steen", ones_str);}

    else{
```

```c
    else{
        if(ones == 0){
            printf("%s", tens_str);}
        else{
        printf("%s-%s", tens_str, ones_str);}}

    return 0;
    }
```


"C:\Users\John Hamir Karim\Desktop\CMSC21\Lecture3\as2.exe"
Enter a two-digit number: 47
Number entered in words: forty-seven
Process returned 0 (0x0)   execution time : 5.757 s
Press any key to continue.


"C:\Users\John Hamir Karim\Desktop\CMSC21\Lecture3\as2.exe"
Enter a two-digit number: 15
Number entered in words: fifteen
Process returned 0 (0x0)   execution time : 4.940 s
Press any key to continue.