EECE.2160: ECE Application ProgrammingSpring 2017

Lecture 9: Key Questions February 6, 2017

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1.	Describe the basic format of a switch statement, including its general usage, the use of case and default, and the use of the break statement.
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2.	Describe a situation in which you might not want to use a break statement at the end of a given case.

3. **Example:** Given the code below:

```
int main() {
     char grd;
     printf("Enter Letter Grade: ");
     scanf("%c", &grd);
     printf("You are ");
     switch (grd) {
     case 'A' :
          printf("excellent\n");
     case 'B' :
           printf("good\n");
           break;
     case 'C' :
          printf("average\n");
          break;
     case 'D' :
           printf("poor\n");
           break;
     case 'F' :
          printf("failing\n");
           break;
     default :
           printf("incapable of reading directions\n");
           break;
     return 0;
}
```

What does the program print if the user inputs:

- a. A
- b. B+
- c. c
- d. X
- 4. How could we easily change each case to recognize both upper and lowercase inputs?

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Spring 2017

M. Geiger & P. Li Lecture 9: Key Questions

5. Explain the usage and basic structure of a while loop.

6. **Example:** What does each of the following short programs print?

```
a. x = 7;
  while ( x < 10 )
  {
    printf("%d ",x);
    x = x + 1;
}</pre>
```

```
b. x = 7;
  while ( x < 3 )
  {
    printf("%d ",x);
    x = x + 1;
}</pre>
```

7. **Example:** Finish the following program as directed

```
return 0;
}
```

a. When number of iterations is dependent on a variable (flexible limit) (while2.c)

b. When you want to repeat an operation until a given value (sentinel) is entered (while3.c)

9. What is the difference between a while loop and a do-while loop?

10. Show the difference between the outputs of the loops below

```
x = 7;

do {

    printf("%d",x);

    x = x + 1;

} while ( x < 3 );

x = x + 1;

printf("%d",x);

x = x + 1;

}
```

11. Recall the example for using a while loop with a sentinel value in the grade average program and show that loop written as a do-while loop.