Kent Mark

Cpre 288 – Homework 1

2/2/20

Homework 1

1. The question that I chose to answer from the homework set was question 6 which focused on string formatting in C.
2. sprintf(message, “Read %d datasheet pages every week”, num); This line will print “Read 100 datasheet messages every week”. There are no syntax errors in the text and the correct format specifier and variable, “num”, are used. I should add the variable num stored the integer 100.
3. sprintf(message, “CprE%c%c%c is %s!”, ch1, ch2, ch2, “fun”); This line will print “CprE288 is fun”. There are no syntax errors with the sprint statement. The first %c format specifier refers to the char variable ch1, whose value, 50, equals 2 when converted to ASCII. The second and third %c format specifiers refers to the char variable ch2 whose value, 56, equals 8 when converted to ASCII. Finally, the format specifier %s refers to the string “fun”.
4. sprintf(message, “Move the %s forward for %d cm”, str2+1, num/2); This line will print “Move the Robot forward for 50 cm”. There are no syntax errors in the sprint statement. The first format specifier refers to char array str2, however the char array is read starting at index 1 because of the “+1” appended to str2. The second format specifier %d refers the integer variable num divided by 2.
5. sprintf(message, “The ASCII value for %c is decimal %d and hex %X”, ch1, ch1, ch1); This line will print “The ASCII value for 2 is decimal 50 and hex 32”. The first %c format specifier refers to the char variable ch1, whose value, 50, equals 2 when converted to ASCII. The next format specifier %d also refers to ch1 but will not convert its value to ASCII, instead it will return the decimal 50. Lastly, the format specifier %X takes the int value of ch1 and converts it to hexadecimal.
6. A key concept from class that is related to this question would be “Array”. In class we discussed that in C, and programming in general, an array can be viewed as a storage container that is able hold various kinds of data depending on the it’s data type. I think that applied to this question with the str1 and str2 being char arrays that held individual members that could be referenced.
7. A resource that I used to help me answer the homework questions was the “C for Dummies: All in One Desk Reference” written by Dan Gookin. It provided me with some great explanations of the meaning and uses of the different format specifiers. It also helps he understand when these different format specifiers should be used to avoid possible bugs and errant code.
8. My own question:

char message[100];

char str1[] = “SSuper”;

char str2[] = “Chiefs”;

int num = 108;

sprintf(message, “The %s will win %s Bowl %d!”, str2, str1+1, num/2); This statement will print “The Chiefs will win Super Bowl 54!”.