**COP 2271: Introduction to Computation and Programming Assignment #2**

**Possible Points: 40**

**Problem 1:**

Consider the following C code and answer the following questions **(2 points each, 8 points total)**:

#include <stdio.h>

int main(void) {

printf("This is my second assignment in \nCOP 2271"); printf("\nProgramming is\n\t\tFUN!");

}

1. What is the exact output of the above code? **(2 points)**

**This is my second assignment in**

**COP 2271**

**Programming is**

**FUN!**

1. Name the escape sequence that occurs in this code. **(2 points)**

**\n is the escape sequence for a new line and occurs three times**

**\t is the escape sequence for a horizontal tab and it occurs two times**

1. If you replace printf with Printf, will that cause any errors? Why? **(2 points)**

**Yes, because C is case sensitive.**

1. Use one printf statement (instead of two as shown above) to produce the same output in the above code. **(2 points)**

Printf("This is my second assignment in \nCOP 2271\nProgramming is\n\t\tFUN!");

**Problem 2:**

What is the exact output of the following code? Explain your answer. **(2 points)**

#include <stdio.h>

int main(void) { int sum;

sum= 2 \* 6 + 3 / 2; printf("The sum is: %d", sum);

}

**The code will print the following: The sum is: 13. This is because of the order of operations in C. The compiler will do the 2 \* 6 first, then the 3/2, and then add those two values (12 and 1) together. 3 / 2 is equal to 1 because the type is integer, so the remainder is thrown out.**

**Problem 3:**

Answer the following multiple-choice questions. **(2 points each, 6 points total)**

1. Every statement in C must end with a .

|  |  |
| --- | --- |
| a) Period (.) | b) Semicolon (;) |
| c) Backslash (/) | d) Colon (:) |

1. What does “f” in printf stands for?

|  |  |
| --- | --- |
| a) file | b) function |
| c) formatted | d) font |

1. Each function’s body should start with and end with .

|  |  |
| --- | --- |
| a) Left brace {, right brace } | b) Slash /, Backslash \ |
| c) Left parenthesis (, right parenthesis) | d) Quotation mark “, semicolon ; |

**Problem 4:**

Find and correct 5 total errors in the following C code. **(2 points each, total 10 points)**

1)

#include <stdio> main(void) {

int fav\_number = 0; int birth\_year = 0; int sum;

printf("Enter your favorite number: "); scanf("/d", &fav\_number);

printf("Enter your birth year: "); scanf("%d", birth\_year);

sum = integer1 + integer2;

printf("Sum of the two entered numbers are: %d", &sum);

}

1. Forgot the .h extension. Should be: #include <stdio.h>
2. Forgot the data type. Should be integer: int main(void)
3. Format control string is wrong. Should be %d
4. Forgot the address identifier. Should be &birth\_year
5. Should not have address identifier. Should just be: sum

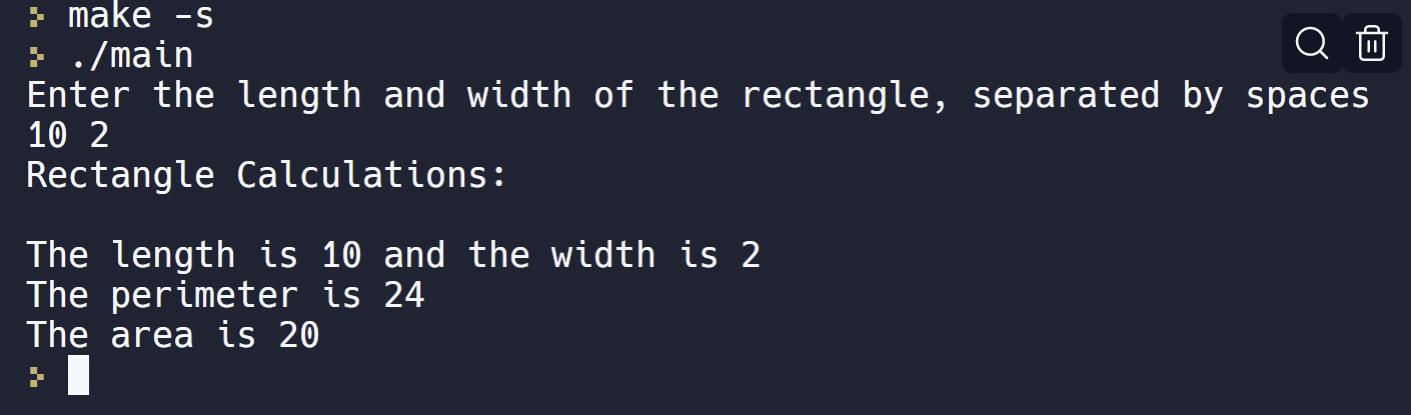
**Problem 5:**

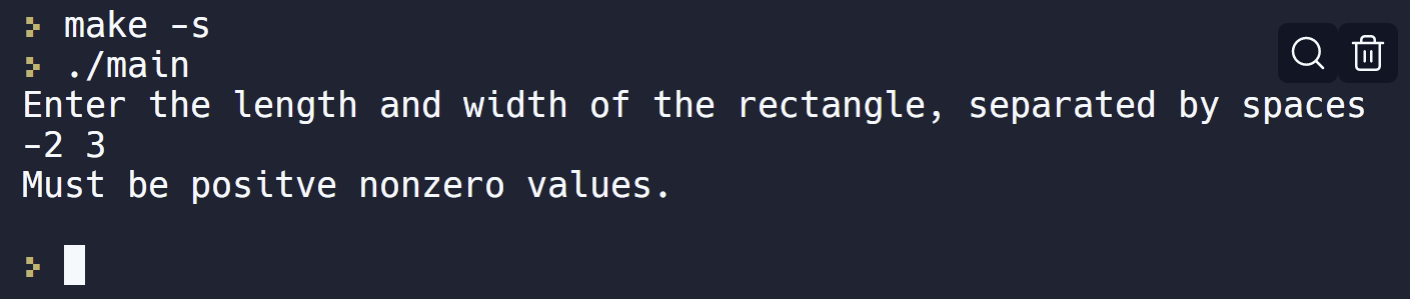
Write a C code that calculates the area and the perimeter of a rectangle **(14 points)**.

1. Your code should prompt the user to enter two integer values, length (l) and width (w).
2. Calculate and print the perimeter and the area of the rectangle in different lines.
   1. Rectangle Perimeter (P) equation: P= 2\*(l+w)
   2. Rectangle Area (A) equation: A= w\*l

**Note:**

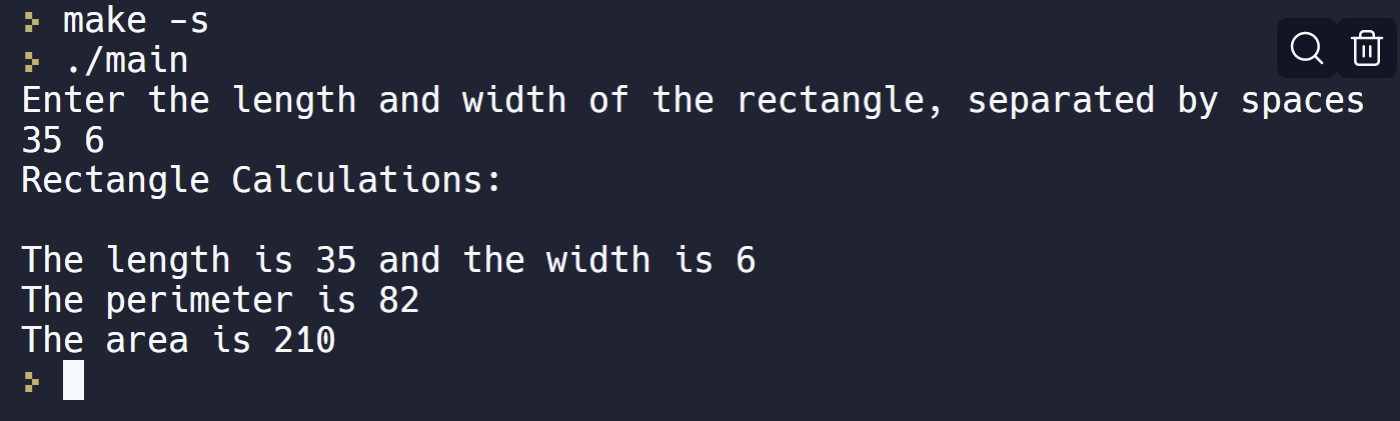
1. **Provide your source code (.c) file (as a separate file)**
2. **Provide snapshots of all your results after running your code. Use a word or pdf file to show your results.**

****

****

**Text

Description automatically generated**

****