

## Lab 2 (8 questions)

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1. Write a C program cmi.c that accepts a distance in inches and prints the corresponding value in cm.

Note that 1 inch = 2.54 cm.

Test data and expected output:

***Enter the distance in inches: 3***

***3.00 inches = 7.62 cm***

2. Write a C program swp.c that reads two values from the keyboard, swaps their values and prints out the result.

Test data and expected output:

***Enter the first number: 2.4***

***Enter the second number: 5.7***

***Values entered are a=2.400000 and b=5.700000***

***Values after swap are a=5.700000 and b=2.400000***

3. Write a C program temp.c that accepts a temperature in Fahrenheit and prints the corresponding temperature in Celsius.

$$C = (F - 32) / 9 * 5$$

Test data and expected output:

***Enter temp in Fahrenheit: 98.4***

***Temp 98.4 in Fahrenheit = 36.89 Celsius***

4. Write a program for users to type in the length and the width of a rectangle.

Print out the perimeter and the area of rectangle.

5. Write a program for users to type in 5 integers

Print out the sum of 5 integers and the percentage of each integer

Test data and expected output:

***Enter 5 integers: 0 2 4 6 8***

***The sum: 20***

***Percentage: 0(0%); 2(10%); 4(20%); 6(30%); 8(40%)***

6. Find the errors (if any) in the following program: (You may type the program in a file fun.c and identify the errors during compilation)

```
/* Is it a C program?*/  
#include <stdio.h>  
int  
main(  
)  
{  
int a,b  
,c;  
a=  
2.45;  
b  
=a+2;  
scanf(  
"%d",  
&c);  
printf(  
"%d %d %d\n",a, b,c); return 0;  
}
```



7. Type the program in a file fmti.c and examine/understand the output.

```
#include<stdio.h>
int main(void)
{ int a=123,b=-123,c=12345;
printf("%2d\n",c);
printf("%10.2d\n",c);
printf("%-10.2d\n",c);
printf("%-7d\n",a);
printf("%07.2d\n",a);
printf("%07d\n",a);
printf("%+0-9.4d\n",a);
printf("%+09.4d\n",a);
printf("%+07d\n",a);
printf("%+07.4d\n",a);
printf("%+-07.4d\n",a);
printf("%-08d\n",b);
printf("%-08.2d\n",b);
printf("%-8.4d\n",b);
return 0;
}
```



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8. Type the program in a file fmtf.c and examine/understand the output.

```
#include <stdio.h>
int main(void)
{ double a=12345.6789;
  printf("\nFormatting with %e or %E\n");
  printf("%e\n",a);
  printf("%5e\n",a);
  printf("%5.2E\n",a);
  printf("%5.0E\n",a);
  printf("%#5.0E\n",a);
  printf("%05e\n",a);
  printf("%010.2e\n",a);
  printf("%+010.1e\n",a);
  printf("\nFormatting with %lf\n");
  printf("%lf\n",a);
  printf("%5lf\n",a);
  printf("%4.2lf\n",a);
  printf("%10.2lf\n",a);
  printf("%-10.2lf\n",a);
  printf("%°/o10.0lf\n",a);
  printf("%#10.0lf\n",a);
  printf("%+010.2lf\n",-a);
  printf("\nFormatting with %g \n");
  printf("%g\n",a);
  printf("%9g\n",a);
  printf("%4.3g\n",a);
  printf("%4.5g\n",a);
  printf("%#4.5g\n",a);
  printf("%#9.5g\n",a);
  printf("%5.4g\n",a);
  return(0);
}
```

