Assignment-3
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1. Display multiple variables. Sample Variables :
a+ c, x + c, dx + x, a + x, s + b, ax + b, s + c, ax + c, ax + ux

Ans:

```
#include <stdio.h>
int main()
{
   int a = 125, b = 12345;
   long ax = 1234567890;
   short s = 4043;
   float x = 2.13459;
   double dx = 1.1415927;
   char c = 'W';
   unsigned long ux = 2541567890;

   printf("a + c =  %d\n", a + c);
   printf("x + c = %f\n", x + c);
   printf("dx + x = %f\n", dx + x);
   printf("a + x = %f\n", a + x);
   printf("s + b =  %d\n", s + b);
   printf("ax + b = %ld\n", ax + b);
   printf("s + c =  %hd\n", s + c);
   printf("ax + c = %ld\n", ax + c);
   printf("ax + ux = %lu\n", ax + ux);
   return 0;
}
```

```
a + c =  212
x + c = 89.134590
dx + x = 3.276183
a + x = 127.134590
s + b =  16388
ax + b = 1234580235
s + c =  4130
ax + c = 1234567977
ax + ux = 3776135780
```

2. Convert specified days into years, weeks and days.

```
#include <stdio.h>
int main()
{
   int days, years, weeks;
   days = 7779;
   years = days/365;
   weeks = (days % 365)/7;
   days = days- ((years*365) + (weeks*7));
   printf("Years: %d\n", years);
   printf("Weeks: %d\n", weeks);
   printf("Days: %d \n", days);
   return 0;
```

```
}
```

```
Years: 21
Weeks: 16
Days: 2
```

3. Accepts two item's weight (floating points' values) and number of purchase (floating points' values) and calculate the average value of the items.

```
#include <stdio.h>
int main()
  {
        double wi1, ci1, wi2, ci2, result;
        printf("Weight - Item1: ");
        scanf("%lf", &wi1);
        printf("No. of item1: ");
        scanf("%lf", &ci1);
        printf("Weight - Item2: ");
        scanf("%lf", &wi2);
        printf("No. of item2: ");
        scanf("%lf", &ci2);
        result = ((wi1 * ci1) + (wi2 * ci2)) / (ci1 + ci2);
        printf("Average Value = %f\n", result);
        return 0;
}
```

```
Weight - Item1: 4
No. of item1: 1
Weight - Item2: 6
No. of item2: 1
Average Value = 5.000000
```

4. Create enumerated data type for 7 days and display their values in integer constants.

```
#include <stdio.h>
int main()
{
enum week{Sun, Mon, Tue, Wed, Thu, Fri, Sat};
printf("Sun = %d", Sun);
printf("\nMon = %d", Mon);
printf("\nTue = %d", Tue);
printf("\nWed = %d", Wed);
printf("\nThu = %d", Thu);
printf("\nFri = %d", Fri);
printf("\nSat = %d", Sat);
return 0;
}
```

```
Sun = 0
Mon = 1
Tue = 2
Wed = 3
Thu = 4
Fri = 5
Sat = 6
```

5. Converts Centigrade to Fahrenheit.

```
#include <stdio.h>
float temp_f;
float temp_c;
char line_text[50];
int main() {
        printf("Input a temperature (in Centigrade): ");
        fgets(line_text, sizeof(line_text), stdin);
        sscanf(line_text, "%f", &temp_c);
        temp_f = ((9.0 / 5.0) * temp_c) + 32.0;
        printf("%f degrees Fahrenheit.\n", temp_f);
        return(0);
}
```

```
Input a temperature (in Centigrade): 33
91.400002 degrees Fahrenheit.
```

6. Takes minutes as input, and display the total number of hours and minutes.

```
#include <stdio.h>
int tot_mins;
int hrs;
int mins;
const int MINaHOUR = 60;
char line_text[50];
int main() {
        printf("Input minutes: ");
        fgets(line_text, sizeof(line_text), stdin);
        sscanf(line_text, "%d", &tot_mins);
        hrs = (tot_mins / MINaHOUR);
        mins = (tot_mins % MINaHOUR);
        printf("%d Hours, %d Minutes.\n", hrs, mins);
        return(0);
}
```

```
Input minutes: 74
1 Hours, 14 Minutes.
```

7. Prints the perimeter of a rectangle to take its height and width as input.

```
#include <stdio.h>
int main()
{
   float length, width, perimeter;
   printf("Enter length of the rectangle: ");
   scanf("%f", &length);
   printf("Enter width of the rectangle: ");
   scanf("%f", &width);
   perimeter = 2 * (length + width);
   printf("Perimeter of rectangle = %f units ", perimeter);
   return 0;
}
```

```
Enter length of the rectangle: 4
Enter width of the rectangle: 6
Perimeter of rectangle = 20.000000 units
```

8. By using +, /, %=, >=, ! operators.

```
#include <stdio.h>
int main()
{
   int a = 9,b = 4, result, c;
   c = a+b;
   printf("a+b = %d \n",c);
   printf("%d >= %d = %d \n", a, b, a >= b);
   result = !(a != b);
   printf("!(a == b) equals to %d \n", result);
   c = a/b;
   printf("a/b = %d \n",c);
   a %=b;
   printf("a= %d \n",c);
   return 0;
}
```

```
a+b = 13
9 >= 4 = 1
!(a == b) equals to 0
a/b = 2
a= 2
```

10. Find the Size of int, float, double and char.

```
#include <stdio.h>
int main()
{
int integerType;
float floatType;
double doubleType;
char charType;
printf("Size of int: %ld bytes\n",sizeof(integerType));
printf("Size of float: %ld bytes\n",sizeof(floatType));
printf("Size of double: %ld bytes\n",sizeof(doubleType));
printf("Size of char: %ld byte\n",sizeof(charType));
return 0;
}
```

```
Size of int: 4 bytes
Size of float: 4 bytes
Size of double: 8 bytes
Size of char: 1 byte
```