programming and structures using c

Assignment 3

**1. display multiple variables.**

#include <stdio.h>

int main()  
{  
    int a = 125, b = 12345;  
    long ax = [1234567890](tel:1234567890);  
    short s = 4043;  
    float x = [2.13459](tel:213459);  
    double dx = [1.1415927](tel:11415927);  
    char c = 'W';  
    unsigned long ux = [2541567890](tel: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;

}

Output-  
a + c =  212  
x + c = [89.134590](tel:89134590)  
dx + x = [3.276183](tel:3276183)  
a + x = [127.134590](tel:127134590)  
s + b =  16388  
ax + b = [1234580235](tel:1234580235)  
s + c =  4130ax + c = [1234567977](tel:1234567977)  
ax + ux = [3776135780](tel:3776135780)

**2. convert specified days into years,weeks and days.**

#include <stdio.h>

int main()

{

int num; int years,weeks,days;

printf("enter the number of days:\n");

scanf("%d",&num);

years=num/365;

weeks=(num%365)/4;

days=(num%365)%4;

printf("%d days are equal to %d years,%d weeks and %d days,num,years,weeks,days);

return 0;

}

output-

enter the number of days:

800

800 days are equal to 2 years,17 weeks and 2 days

**3. Accepts two items weight(floating points value) and number of items purchased(floating points values) and calculate the average value of the items.**

#include <stdio.h>

int main()

{

float item1,item2,p1,p2,avg;

printf("enter the weight of item 1:\n");

scanf("%f",&item1);

printf("enter the weight of item 2:\n");

scanf("%f",&item2);

printf("enter the number of item 1 purchased:\n");

scanf("%f",&p1);

printf("enter the number of item 2 purchased:\n");

scanf("%f",&p2);

avg=(item1\*p1+item2\*p2)/(p1+p2);

printf("the average weight of the items purchased:%f",avg);

return 0;

}

output-

enter the weight of item 1:

10.75

enter the weight of item 2:

12.5

enter the number of item 1 purchased:

5.0

enter the number of item 2 purchased:

9.0

the average weight of the items purchased:11.875000

**4. create enumerated data types for 7 days and display their values in integer constants.**

#include <stdio.h>

int main()

{

enum wdays{mon=1,tue,wed,thur,fri,sat,sun};

printf("the value for monday is:%d\n the value for tuesday is:%d\nthe value for Wednesday is:%d\nthe value for thursday is:%d\nthe value for friday is:%d\n the value for saturday is:%d\nthe value for sunday is:%d\n",mon,tue,wed,thur,fri,sat,sun);

return 0;

}

output-

the value for monday is:1

the value for tuesday is:2

the value for Wednesday is:3

the value for thursday is:4

the value for friday is:5

the value for saturday is:6

the value for sunday is:7

**5. converts centigrade to Fahrenheit.**

#include <stdio.h>

int main()

{

float c,f;

printf("enter value in centigrade for conversion to fahrenheit:\n");

scanf("%f",&c);

f=9/5\*c+32;

printf("the value in fahrenheit is:%.3f",f);

return 0;

}

output-

enter value in centigrade for conversion to fahrenheit:

5

the value in fahrenheit is:37.000

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

#include <stdio.h>

int main()

{

int tmin,min,hrs;

printf("enter total minutes:\n");

scanf("%d",&tmin);

hrs=tmin/60;

min=tmin%60;

printf("%d minutes is equal to %d hours and %d minutes",tmin,hrs,min);

return 0;

}

output-

enter total minutes:

340

340 minutes is equal to 5 hours and 40 minutes

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

#include <stdio.h>

int main()

{

float l;

float w;

float peri;

printf("enter the length and width to calculate the perimeter of the rectangle:\n");

scanf("%f%f",&l,&w);

peri=2\*(l+w);

printf("the perimeter of the rectangle is:%.3f",peri);

return 0;

}

output-

enter the length and width to calculate the perimeter of the rectangle:

23 49

the perimeter of the rectangle is:144.000

**8. use +,/,%=,>=,! Operators.**

#include <stdio.h>

int main()

{  
 int   a=2,b=4,c;

c=a+b;  
 printf("example of arithmetic'+' operator:a+b is equal to %d\n",c);  
 c=b/a;  
 printf("example of arithmetic'/' operator:a/b is equal to %d\n",c);  
    c%=a;  
 printf("example of assignment'%=' operator:c%=a is equal to%d\n",c);

printf("example of relational '>=' operator:b>=a is equal to %d\n ",b>=a);  
printf("example of logical '!' operator : !(a==b) is equal to %d\n",!(a==b));

    return 0;  
}  
     
Output-

  example of arithmetic'+' operator:a+b is equal to 6  
 example of arithmetic'/' operator:a/b is equal to 2

example of assignment'%=' operator:c%=a is equal to 0  
example of relational '>=' operator:b>=a is equal to 1  
example of logical '!' operator : !(a==b) is equal to 1

**9. use &,|,>>,?:,|| operators.**

.#include <stdio.h>

int main() {  
   int   a=2,b=4,c=10,d;  
printf("example of bitwise '&' operator:a&b is equal to %d\n",a&b);  
printf("example of bitwise'|' operator:a|b is equal to %d\n",a|b);  
printf("example of bitwise'>>' operator:c>>1 is equal to %d\n",c>>1);  
    d=(a>b)||(c>b);  
printf("example of logical'||' operator:a>b||c>b is equal to %d\n",d);  
d=(b>a)?b:a;  
printf("example of conditional'?:' operator:(b>a)?b:a is equal to %d\n",d);

    return 0;  
}

    output-  
example of bitwise '&' operator:a&b is equal to 0  
example of bitwise'|' operator:a|b is equal to 6  
example of bitwise'>>' operator:c>>1 is equal to 5  
example of logical'||' operator:a>b||c>b is equal to 1  
example of conditional'?:' operator:(b>a)?b:a is equal to 4

**10. find the size of int,float,double and char.**

#include <stdio.h>

int main()

{

int a;

float b;

double c;

char d;

printf("the size of int is:%d\n",sizeof(a));

printf("the size of float is:%d\n",sizeof(b));

printf("the size of double is:%d\n",sizeof(c));

printf("the size of char is:%d\n",sizeof(d));

return 0;

}

output-

the size of int is:4

the size of float is:4

the size of double is:8

the size of char is:1