***Assignment-3***

Q1. Display multiple variables.

Sample Variables : a+ c, x + c, dx + x, a + x, s + b, ax + b, s + c, ax + c, ax + ux

Declaration : 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;

#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;

}

Output

/tmp/PhcDWam27k.o

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

Q2. Convert specified days into years, weeks and days

#include <stdio.h>

int main()

{

int days, years, weeks;

days = 1825;

// Converts days to years, weeks and days

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;

}

Output

/tmp/a1eGDLItHH.o

Years: 5

Weeks: 0

Days: 0

Q3. 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;

}

Output

Weight item2: 15

No.of item1: 5

Weight- item2: 25

No.of item2: 4

Average value= 19.444444

Q4. 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;

}

Output

/tmp/a1eGDLItHH.o

Sun = 0

Mon = 1

Tue = 2

Wed = 3

Thu = 4

Fri = 5

Sat = 6

Q5. Converts Centigrade to Fahrenheit

#include <stdio.h>

int main()

{

float celsius, fahrenheit;

printf("Please Enter the temperature in Fahrenheit: \n");

scanf("%f", &fahrenheit);

// Convert th temperature from fahrenheit to celsius formula

celsius = (fahrenheit - 32) \* 5 / 9;

//celsius = 5 \* (fahrenheit - 32) / 9;

//celsius = (fahrenheit - 32) \* 0.55556;

printf("\n %.2f Fahrenheit = %.2f Celsius", fahrenheit, celsius);

return 0;

}

Output

/tmp/a1eGDLItHH.o

Please Enter the temperature in Fahrenheit:

80

80.00 Fahrenheit = 26.67 Celsius

Q6. Takes minutes as input, and display the total number of hours and minutes

#include <stdio.h>

int tot\_mins; /\* given number of minutes \*/

int hrs; /\* number of hours (to be computed) \*/

int mins; /\* number of minutes (to be computed) \*/

const int MINaHOUR = 60; /\* number of minutes in an hour \*/

char line\_text[50]; /\* line of input from keyboard \*/

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);

}

Output

/tmp/a1eGDLItHH.o

Input minutes: 765

12 Hours, 45 Minutes

Q7. Prints the perimeter of a rectangle to take its height and width as input.

#include <stdio.h>

int main() {

float rec\_width; /\* width of the rectangle \*/

float rec\_height; /\* height of the rectangle \*/

float rec\_perimeter; /\* perimeter (to be computed) \*/

printf("Input the height of the Rectangle : ");

sscanf(line\_text, "%f", &rec\_height);

printf("Input the width of the Rectangle : ");

sscanf(line\_text, "%f", &rec\_width);

rec\_perimeter = 2.0 \* (rec\_height + rec\_width);

/\* perimeter = 2 \* ( width + height )\*/

printf("Perimeter of the Rectangle is : %f\n", rec\_perimeter);

return 0;

}

Output

Input the height of the rectangle= 5

Input the width of the rectangle= 7

Perimeter of the rectangle is= 24.00000

Q8. By using +, /, %=, >=,! Operators

#include <stdio.h>

int main(){

int a = 10,b = 40, c;

c = a+b;

printf("a+b = %d \n",c);

c = a/b;

printf("a/b = %d \n",c);

c = a%=b;

printf("a%=b = %d \n",c);

c = a>=b;

printf("a>=b = %d \n",c);

c = a%b;

printf("Remainder when a divided by b = %d \n",c);

return 0;

}

Output

/tmp/LLcHBZw3yI.o

a+b = 50

a/b = 0

a%=b = 10

a>=b = 0

Remainder when a divided by b = 10

Q9. By using &, |, >>, ?:, || operators

#include <stdio.h>

int main(){

int a = 10,b = 40, c;

c = a&b;

printf("a&b = %d \n",c);

c = a>>b;

printf("a>>b = %d \n",c);

c = a?:b;

printf("a?:b = %d \n",c);

c = a%b;

printf("Remainder when a divided by b = %d \n",c);

return 0;

}

Output

/tmp/w55oqlHCEq.o

a&b = 8

a>>b = 0

a?:b = 10

Remainder when a divided by b = 10

Q10.Find the Size of int, float, double and char

#include<stdio.h>

int main() {

int intType;

float floatType;

double doubleType;

char charType;

// sizeof evaluates the size of a variable

printf("Size of int: %zu bytes\n", sizeof(intType));

printf("Size of float: %zu bytes\n", sizeof(floatType));

printf("Size of double: %zu bytes\n", sizeof(doubleType));

printf("Size of char: %zu byte\n", sizeof(charType));

return 0;

}

Output

/tmp/w55oqlHCEq.o

Size of int: 4 bytes

Size of float: 4 bytes

Size of double: 8 bytes

Size of char: 1 byte