Basic(বেসিক)

1 – Takes two integer and prints them.

2 – Prints float, doubleand character.

3 – Takes float numbers and prints them.

4 – Takes integer and float number and prints them.

5 – Convert character into ASCII value.

6 – Size of operator.

7 – Takes two integer and display sum, average.

8(1) – Lower to Uppercase letter.

8(2) – Lower to Uppercase letter using library function.

9(1) – Upper to Lowercase letter.

9(2) – Upper to Lowercase letter using library function.

10(1) – Decimal to Octal.

10(2) – Octal to Decimal.

10(3) – Decimal to Hexa.

10(4) – Hexa to Decimal.

10(5) – Octal to Hexa.

10(6) – Hexa to Octal.

11 – Add, Sub, Division, Multiplication, Remainder.

12 – Area of a Triangle.

13 – Area of a Rectangle.

14 – Area of a triangle given three arms length.

15 – Area of a Circle.

16(1) – Celcious to Farenheit.

16(2) – Farenheit to Celcious.

17(1) – Swapping two number using temporary variable.

17(2) – Swapping two number without temporary variable.

18 – Quadratic equation(ax2 + bx + c).

19 – Absolute value print.

20(1) – Square root.

20(2) – Suare root from the user

21(1) – Power.

21(2) – Power from the user.

22(1) – log(), log10(), exp.

22(2) – sin, cos, tan.

23 – Round, Trunc, Ceil, Floor.

24 – Assignment operator.

25(1) – Unary Operator.

25(2) – Unary Operator.

26. Print a character.

27. Simple sum, sub, mul, div.

28. Simple sum, sub, add, mul using character sign.

29. Interger to Character.

30. সুদ আসল

31. সমীকরণ হতে x এর মান নির্নয়।

1 – Takes two integer and prints them.

Output:

Please enter two integer number = 10 20

Numbers are = 10, 20

#include <stdio.h>

int main()

{

int num1, num2;

printf("Please enter two integer number = ");

scanf("%d %d", &num1, &num2);

printf("Numbers are = %d, %d", num1, num2);

return 0;

}

2 – Prints float, doubleand character.

Output:

Number 1 is = 10.500000

Number 2 is = 10.55

Character is = A

#include <stdio.h>

int main()

{

float num1 = 10.5;

double num2 = 10.555;

char ch = 'A';

printf("Number 1 is = %f\n", num1);

printf("Number 2 is = %.2lf\n", num2);

printf("Character is = %c\n", ch);

}

3 – Takes float numbers and prints them.

Output:

Enter two float number = 12.43223 45.7879

Numbers are = 12.43, 45.79

#include <stdio.h>

int main()

{

float num1, num2;

printf("Enter two float number = ");

scanf("%f %f", &num1, &num2);

printf("Numbers are = %.2f, %.2f", num1, num2);

}

4 – Takes integer and float number and prints them.

#include <stdio.h>

int main()

{

int num1;

float num2;

printf("Enter a integer and a float number = ");

scanf("%d %f", &num1, &num2);

printf("Numbers are = %d, %.2f\n", num1, num2);

}

Output:

Enter a integerand a float number = 23 24.5678

Numbers are = 23, 24.57

5 – Convert character into ASCII value.

#include <stdio.h>

int main()

{

char ch;

printf("Enter any character = ");

scanf("%c", &ch);

printf("The ASCII value is = %d\n", ch);

}

Output:

Enter any character = d

The ASCII value is = 100

6 – Size of operator.

Output:

Size of integer = 4 bytes

Size of float = 4 bytes

Size of double = 8 bytes

Size of character = 1 bytes

#include <stdio.h>

int main()

{

int i;

float f;

double d;

char ch;

printf("Size of integer = %d bytes\n", sizeof(i));

printf("Size of float = %d bytes\n", sizeof(f));

printf("Size of double = %d bytes\n", sizeof(d));

printf("Size of character = %d bytes\n", sizeof(ch));

}

7 – Takes two integer and display sum, average.

#include <stdio.h>

int main()

{

float num1, num2, sum, avg;

printf("Please enter two number = ");

scanf("%f %f", &num1, &num2);

sum = num1 + num2;

avg = sum / 2;

printf("The sum is = %.2f\n", sum);

printf("The average is = %.2f\n", avg);

}

Output:

Please enter two number = 12.5 17.543

The sum is = 30.04

The average is = 15.02

8(1) – Lower to Uppercase letter.

#include <stdio.h>

int main()

{

char lower;

printf("Enter any lowercase letter = ");

scanf("%c", &lower);

printf("The uppercase letter is = %c\n", lower - 32);

}

Output:

Enter any lowercase letter = a

The uppercase letter is = A

8(2) – Lower to Uppercase letter using library function.

#include <stdio.h>

int main()

{

char lower, upper;

printf("Enter any lowercase letter = ");

scanf("%c", &lower);

upper = toupper(lower);

printf("The uppercase letter is = %c\n", upper);

}

Output:

Enter any lowercase letter = a

The uppercase letter is = A

9(1) – Upper to Lowercase letter.

#include <stdio.h>

int main()

{

char upper;

printf("Enter any uppercase letter = ");

scanf("%c", &upper);

printf("The lowercase letter is = %c\n", upper + 32);

}

Output:

Enter any uppercase letter = A

The lowercase letter is = a

9(2) – Upper to Lowercase letter using library function.

#include <stdio.h>

int main()

{

char upper, lower;

printf("Enter any uppercase letter = ");

scanf("%c", &upper);

lower = tolower(upper);

printf("The lawercase letter is = %c\n", lower);

}

Output:

Enter any uppercase letter = A

The lawercase letter is = a

10(1) – Decimal to Octal.

Output:

Enter any decimal number = 10

The Octal number is = 12

#include <stdio.h>

int main()

{

int num;

printf("Enter any decimal number = ");

scanf("%d", &num);

printf("The Octal number is = %o\n", num);

}

10(2) – Octal to Decimal.

Output:

Enter any octal number = 10

The decimal number is = 8

#include <stdio.h>

int main()

{

int num;

printf("Enter any octal number = ");

scanf("%o", &num);

printf("The decimal number is = %d\n", num);

}

10(3) – Decimal to Hexa.

Output:

Enter any decimal number = 15

The hexadecimal number is = f

#include <stdio.h>

int main()

{

int num;

printf("Enter any decimal number = ");

scanf("%d", &num);

printf("The hexadecimal number is = %x\n", num);

}

10(4) – Hexa to Decimal.

Output:

Enter any hexadecimal number = f

The decimal number is = 15

#include <stdio.h>

int main()

{

int num;

printf("Enter any hexadecimal number = ");

scanf("%x", &num);

printf("The decimal number is = %d\n", num);

}

10(5) – Octal to Hexa.

Output:

Enter any octal number = 17

The hexadecimal number is = f

#include <stdio.h>

int main()

{

int num;

printf("Enter any octal number = ");

scanf("%o", &num);

printf("The hexadecimal number is = %x\n", num);

}

10(6) – Hexa to Octal.

Output:

Enter any hexadecimal number = f

The Octal number is = 17

#include <stdio.h>

int main()

{

int num;

printf("Enter any hexadecimal number = ");

scanf("%x", &num);

printf("The Octal number is = %o\n", num);

}

11 – Add, Sub, Division, Multiplication, Remainder.

Output:

Enter two number = 10 5

Sum is = 15.00

Sub is = 5.00

Mul is = 50.00

Div is = 2.00

Mod is = 0

#include <stdio.h>

#include <math.h>

int main()

{

double num1, num2, result;

printf("Enter two number = ");

scanf("%lf %lf", &num1, &num2);

result = num1 + num2;

printf("Sum is = %.2lf\n", result);

result = num1 - num2;

printf("Sub is = %.2lf\n", result);

result = num1 \* num2;

printf("Mul is = %.2lf\n", result);

result = num1 / num2;

printf("Div is = %.2lf\n", result);

(int)result = (int)num1 % (int)num2;

printf("Mod is = %d\n", result);

}

12 – Area of a Triangle.

Output:

Enter baseand height = 6.8 5.4

The area of triangle is = 18.36

#include <stdio.h>

int main()

{

float base, height, area;

printf("Enter base and height = ");

scanf("%f %f", &base, &height);

area = 0.5 \* base \* height; //(float)1/2

printf("The area of triangle is = %.2f\n", area);

}

13 – Area of a Rectangle.

Output:

Please enter lengthand width = 10.4 5.6

The area of rectangul is = 58.24

#include <stdio.h>

int main()

{

float length, width, area;

printf("Please enter length and width = ");

scanf("%f %f", &length, &width);

area = length \* width;

printf("The area of rectangul is = %.2f\n", area);

}

14 – Area of a triangle given three arms length.

(ত্রিভূজ এর তিন বাহুর দৈর্ঘ্য দেওয়া থাকলে ত্রিভূজের ক্ষেত্রফল নির্ণয় করার সি প্রোগ্রাম)

Output:

Enter the value of a band c = 15 10 5

The area is = 639.00

#include <stdio.h>

int main()

{

double a, b, c, s, area;

printf("Enter the value of a b and c = ");

scanf("%lf %lf %lf", &a, &b, &c);

s = (a + b + c) / 2;

area = sqrt(s \* (s - a) \* (s - b) \* (s - c));

printf("The area is = %.2lf\n", area);

}

15 – Area of a Circle.

Output:

Enter the radius of the circle = 5.2

The area is = 84.95

#include <stdio.h>

int main()

{

float radius, area;

printf("Enter the radius of the circle = ");

scanf("%f", &radius);

area = 3.1416 \* radius \* radius;

printf("The area is = %.2f\n", area);

}

16(1) – Celcious to Farenheit.

#include <stdio.h>

int main()

{

float f, c;

printf("Enter the celcious temperatre = ");

scanf("%f", &c);

f = (c \* 1.8) + 32;

printf("The Farenheit temperature is = %.2f\n", f);

}

Output:

Enter the celcious temperatre = 37

The Farenheit temperature is = 98.60

16(2) – Farenheit to Celcious.

#include <stdio.h>

int main()

{

float f, c;

printf("Enter the farenheit temperatre = ");

scanf("%f", &f);

c = (f - 32) / 1.8;

printf("The Celcious temperature is = %.2f\n", c);

}

Output:

Enter the farenheit temperatre = 100

The Celcious temperature is = 37.78

17(1) – Swapping two number using temporary variable.

#include <stdio.h>

int main()

{

int num1 = 10;

int num2 = 5;

int temp;

temp = num1;

num1 = num2;

num2 = temp;

printf("After swapping number 1 is = %d\n", num1);

printf("After swapping number 2 is = %d\n", num2);

}

Output:

After swapping number 1 is = 5

After swapping number 2 is = 10

17(2) – Swapping two number without temporary variable.

#include <stdio.h>

int main()

{

int num1 = 10, num2 = 5;

num1 = num1 - num2; //10-5 = 5

num2 = num1 + num2; //5+5 = 10

num1 = num2 - num1; //10-5 = 5

printf("So, the number 1 is = %d\n", num1);

printf("So, the number 2 is = %d\n", num2);

}

Output:

So, the number 1 is = 5

So, the number 2 is = 10

18 – Quadratic equation(ax2 + bx + c).

#include <stdio.h>

int main()

{

double a, b, c, d, x1, x2;

printf("Enter the value of a, b, c = ");

scanf("%lf %lf %lf", &a, &b, &c);

d = sqrt(b \* b - 4 \* a \* c);

x1 = (-b + d) / 2;

x2 = (-b - d) / 2;

printf("X1 = %.2lf\n", x1);

printf("X2 = %.2lf\n", x2);

}

Output:

Enter the value of a, b, c = 2.3 4.5 6.7

X1 = 5482325.75

X2 = -5482330.25

19 – Absolute value print.

#include <stdio.h>

int main()

{

double result = abs(-7);

printf("The value is = %.0lf\n", result);

}

Output:

The value is = 7

20(1) – Square root.

#include <stdio.h>

#include <math.h>

int main()

{

double result = sqrt(49);

printf("The value is = %.2lf\n", result);

}

Output:

The value is = 7.00

20(2) – Suare root from the user.

#include <stdio.h>

#include <math.h>

int main()

{

double num, result;

printf("Enter any number = ");

scanf("%lf", &num);

result = sqrt(num);

printf("The value is = %.2lf\n", result);

}

Output:

Enter any number = 196

The value is = 14.00

21(1) – Power.

#include <stdio.h>

#include <math.h>

int main()

{

double result = pow(5, 2);

printf("The value is = %.2lf\n", result);

}

Output:

The value is = 25.00

21(2) – Power from the user.

#include <stdio.h>

#include <math.h>

int main()

{

double num1, num2, result;

printf("Please enter two number = ");

scanf("%lf %lf", &num1, &num2);

result = pow(num1, num2);

printf("The valur is = %.2lf\n", result);

}

Output:

Please enter two number = 5 2

The valur is = 25.00

22(1) – log(), log10(), exp.

#include <stdio.h>

#include <math.h>

int main()

{

double a = 10.5, b = 1, c = 2;

double result1 = log(a);

double result2 = log(b);

double result3 = exp(c);

printf("log(%.2lf) = %.2lf\n", a, result1);

printf("log(%.2lf) = %.2lf\n", b, result2);

printf("exp(%.2lf) = %.2lf\n", c, result3);

}

Output:

log(10.50) = 2.35

log(1.00) = 0.00

exp(2.00) = 7.39

22(2) – sin, cos, tan.

#include <stdio.h>

#include <math.h>

int main()

{

double a = 2, b = 3, c = 4;

double result1 = sin(a);

double result2 = cos(b);

double result3 = tan(c);

printf("Sin(%.2lf) = %.2lf\n", a, result1);

printf("cos(%.2lf) = %.2lf\n", b, result2);

printf("tan(%.2lf) = %.2lf\n", c, result3);

}

Output:

Sin(2.00) = 0.91

cos(3.00) = -0.99

tan(4.00) = 1.16

23 – Round, Trunc, Ceil, Floor.

#include <stdio.h>

#include <math.h>

int main()

{

double a = 5.55, b = 5.25, c = 5.25, d = 5.25;

double resulta = round(a);

double resultb = trunc(b);

double resultc = ceil(c);

double resultd = floor(d);

printf("Round-%.2lf = %.2lf\n", a, resulta);

printf("Trunc-%.2lf = %.2lf\n", b, resultb);

printf("Ceil-%.2lf = %.2lf\n", c, resultc);

printf("Floor-%.2lf = %.2lf\n", d, resultd);

}

Output:

Round - 5.55 = 6.00

Trunc - 5.25 = 5.00

Ceil - 5.25 = 6.00

Floor - 5.25 = 5.00

round - দশমিক এর পর ৫ এর বড় হলে পরের পূর্নসংখ্য প্রিন্ট করবে।

trunc - দশমিক এর পরের সংখ্যগুলো বাদ পড়ে যাবে।

ceil - দশমিক এর পর কেবল পূর্নসংখ্য প্রিন্ট করবে(যেমন - ২.৩ থাকলে ৩)।

floor - দশমিক এর আগের কেবল পূর্নসংখ্য প্রিন্ট করবে(যেমন - ২.৩ থাকলে ২)।

24 – Assignment operator.

Output:

7

50

#include <stdio.h>

int main()

{

int a = 5, b = 10;

a += 2; //a = a+2 = 7.

b \*= 5; //b = b\*5 = 50.

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

}

25(1) – Unary Operator.

Output:

y1 = 10

y2 = -10

y3 = 10

y4 = 9

y5 = 10

#include <stdio.h>

int main()

{

int x1 = 10, x2 = 10, x3 = 10, x4 = 10, x5 = 10;

int y1 = +x1, y2 = -x2, y3 = x3--, y4 = --x4, y5 = x5++;

printf("y1 = %d\n", y1); //10

printf("y2 = %d\n", y2); //-10

printf("y3 = %d\n", y3); //10

printf("y4 = %d\n", y4); //9

printf("y5 = %d\n", y5); //10

}

25(2) – Unary Operator.

Output:

10

11

12

12

12

11

10

#include <stdio.h>

int main()

{

int x = 10;

printf("%d\n", x++); //10

printf("%d\n", x); //11

printf("%d\n", ++x); //12

printf("%d\n", x); //12

printf("%d\n", x--); //12

printf("%d\n", x); //11

printf("%d\n", --x); //10

}

26. Print a character.

#include <stdio.h>

int main()

{

char ch;

printf("Enter the first letter of your name = ");

//scanf("%c", &ch);

ch = getchar();

printf("The first letter is = %c\n", ch);

}

Output:

Enter the first letter of your name = d

The first letter is = d

27. Simple sum, sub, mul, div.

#include <stdio.h>

int main()

{

double num1, num2;

printf("Enter the first number = ");

scanf("%lf", &num1);

printf("Enter the second number = ");

scanf("%lf", &num2);

printf("%lf + %lf = %lf\n", num1, num2, num1 + num2);

printf("%lf - %lf = %lf\n", num1, num2, num1 - num2);

printf("%lf \* %lf = %lf\n", num1, num2, num1 \* num2);

printf("%lf / %lf = %.2lf\n", num1, num2, num1 / num2);

}

Output:

Enter the first number = 20.7

Enter the second number = 10.3

20.700000 + 10.300000 = 31.000000

20.700000 - 10.300000 = 10.400000

20.700000 \* 10.300000 = 213.210000

20.700000 / 10.300000 = 2.01

28. Simple sum, sub, add, mul using character sign.

#include <stdio.h>

int main()

{

double num1, num2, value;

char sign;

printf("Enter the value of first number = ");

scanf("%lf", &num1);

printf("Enter the value of second number = ");

scanf("%lf", &num2);

value = num1 + num2;

sign = '+';

printf("%.2lf %c %.2lf = %.2lf\n", num1, sign, num2, value);

value = num1 - num2;

sign = '-';

printf("%.2lf %c %.2lf = %.2lf\n", num1, sign, num2, value);

value = num1 \* num2;

sign = '\*';

printf("%.2lf %c %.2lf = %.2lf\n", num1, sign, num2, value);

value = num1 / num2;

sign = '/';

printf("%.2lf %c %.2lf = %.2lf\n", num1, sign, num2, value);

}

Output:

Enter the value of first number = 10.5

Enter the value of second number = 5.5

10.50 + 5.50 = 16.00

10.50 - 5.50 = 5.00

10.50 \* 5.50 = 57.75

10.50 / 5.50 = 1.91

29. Integer to Character.

Output:

C E c

#include <stdio.h>

int main()

{

char ch1 = 67, ch2 = 69, ch3 = 99;

printf("%c %c %c\n", ch1, ch2, ch3);

}

30. দশ হাজার টাকার ঋন নিলে ৩৫% সুদ। তাহলে ৫ বছর পর সুদ-আসলে মোট

কত টাকা দিতে হবে। এবং প্রতি মাসে কত টাকা করে দিতে হবে।

#include <stdio.h>

int main()

{

double loanamount, interestrate, years, totalamount, monthlyamount;

printf("Enter the loan amount = ");

scanf("%lf", &loanamount);

printf("Enter the interest rate = ");

scanf("%lf", &interestrate);

printf("Enter total years = ");

scanf("%lf", &years);

totalamount = loanamount + loanamount \* interestrate / 100;

monthlyamount = totalamount / (years \* 12);

printf("Total amount = %.2lf\n", totalamount);

printf("Monthly amount = %.2lf\n", monthlyamount);

}

Output:

Enter the loan amount = 10000

Enter the interest rate = 35

Enter total years = 5

Total amount = 13500.00

Monthly amount = 225.00

31. সমীকরণ থেকে x এর মান নির্নয়।

#include <stdio.h>

int main()

{

double a1, a2, b1, b2, c1, c2, x, y, d;

printf("Enter a1 = ");

scanf("%lf", &a1);

printf("Enter a2 = ");

scanf("%lf", &a2);

printf("Enter b1 = ");

scanf("%lf", &b1);

printf("Enter b2 = ");

scanf("%lf", &b2);

printf("Enter c1 = ");

scanf("%lf", &c1);

printf("Enter c2 = ");

scanf("%lf", &c2);

d = (a1 \* b2 - a2 \* b1);

if ((int)d == 0) //or if(d == 0.0)

{

printf("Value of x and y cannot be determined\n");

}

else

{

x = (b2 \* c1 - b1 \* c2) / d;

y = (a1 \* c2 - a2 \* c1) / d;

}

printf("X = %.2lf\n", x);

printf("Y = %.2lf\n", y);

}

Output:

Enter a1 = 1

Enter a2 = 2

Enter b1 = 3

Enter b2 = 4

Enter c1 = 5

Enter c2 = 6

X = -1.00

Y = 2.00

Here,

x = (b2c1-b1c2)/(a1b2-a2b1)

y = (a1c2-a2c1)/(a1b2-a2b1)