***C Program***

***Variable:***

***1. #include<stdio.h>***

***void main( )***

***{***

***int name=20;***

***printf("%d", name);***

***}***

***Local variable:***

***// C program to declare and print local variable inside a***

***// function.***

***#include <stdio.h>***

***void function( )***

***{***

***int x = 10; // local variable***

***printf("%d", x);***

***}***

***int main( ) { function( ); }***

***Global variable:***

***// C program to demonstrate use of global variable***

***#include <stdio.h>***

***int x = 20; // global variable***

***void function1( ) {***

***printf("Function 1: %d\n", x);***

***}***

***void function2( ) {***

***printf("Function 2: %d\n", x);***

***}***

***int main( )***

***{***

***function1( );***

***function2( );***

***return 0;***

***}***

***Static variable:***

***// C program to demonstrate use of static variable***

***#include <stdio.h>***

***void function( )***

***{***

***int x = 20; // local variable***

***static int y = 30; // static variable***

***x = x + 10;***

***y = y + 10;***

***printf("\tLocal: %d\n\tStatic: %d\n", x, y);***

***}***

***int main( )***

***{***

***printf("First Call\n");***

***function( );***

***printf("Second Call\n");***

***function( );***

***printf("Third Call\n");***

***function( );***

***return 0;***

***}***

***Data type:***

***Int:***

***1. #include <stdio.h>***

***void main( )***

***{***

***int i = 5;***

***printf("The integer value is: %d \n", i);***

***}***

***2. #include <stdio.h>***

***int main( )***

***{***

***// the maximum value allowed in the int is 32,767***

***int x = 40000;***

***printf("enter the x number:%d",x);***

***return 0;***

***}***

***3. // C program to take an integer***

***// as input and print it***

***#include <stdio.h>***

***// Driver code***

***int main( )***

***{***

***// Declare the variables***

***int num;***

***// Input the integer***

***printf("Enter the integer: ");***

***scanf("%d", &num);***

***// Display the integer***

***printf("Entered integer is: %d", num);***

***return 0;***

***}***

***4. #include <stdio.h> (add)***

***int main( ) {***

***int number1, number2, sum;***

***printf("Enter two integers: ");***

***scanf("%d %d", &number1, &number2);***

***// calculate the sum***

***sum = number1 + number2;***

***printf("%d + %d = %d", number1, number2, sum);***

***return 0;***

***}***

***5. #include <stdio.h> (add)***

***int main( )***

***{***

***// Declare variables***

***int num1,num2,sum;***

***printf("Enter two integers: ");***

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

***// calculate the sum of two numbers***

***sum = num1 + num2;***

***// Print the result***

***printf("%d + %d = %d", num1, num2, sum);***

***return 0;***

***}***

***6. #include <stdio.h>***

***int main( )***

***{***

***int first, second, add, subtract, multiply;***

***float divide;***

***printf("Enter two integers\n");***

***scanf("%d%d", &first, &second);***

***add = first + second;***

***subtract = first - second;***

***multiply = first \* second;***

***divide = first / (float)second; //typecasting***

***printf("Sum = %d\n",add);***

***printf("Difference = %d\n",subtract);***

***printf("Multiplication = %d\n",multiply);***

***printf("Division = %.2f\n",divide);***

***return 0;***

***}***

***#include <stdio.h>***

***int main( )***

***{***

***int first, second, add, subtract, multiply;***

***float divide;***

***printf("Enter two integers\n");***

***scanf("%d%d", &first, &second);***

***add = first + second;***

***subtract = first - second;***

***multiply = first \* second;***

***divide = first / (float)second; //typecasting***

***printf("Sum = %d\n",add);***

***printf("Difference = %d\n",subtract);***

***printf("Multiplication = %d\n",multiply);***

***printf("Division = %f\n",divide);***

***return 0;***

***}***

***Char:***

***1. #include <stdio.h>***

***void main( )***

***{***

***char c = 'b';***

***printf("The character value is: %c \n", c);***

***}***

***2. // C program to demonstrate character arithmetic.***

***#include <stdio.h>***

***int main( )***

***{***

***char ch1 = 125, ch2 = 15;***

***ch1 = ch1 + ch2;***

***printf("%d\n", ch1);***

***printf("%c\n", ch1 - ch2 - 4);***

***return 0;***

***}***

***3. #include <stdio.h>***

***int main( )***

***{***

***char a = 'A';***

***char b = 'B';***

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

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

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

***return 0;***

***}***

***#include <stdio.h>***

***int main(void) {***

***// Intializing string of chharacters***

***char s[] = "something";***

***// Displaying the string of characters***

***printf("The string stored in s is: %s\n", s);***

***return 0;***

***}***

***Float:***

***1#include <stdio.h>***

***int main()***

***#include <stdio.h>***

***void main()***

***{***

***float f = 7.2357;***

***printf("The float value is: %f \n", f);***

***}***

***2.#include <stdio.h>***

***int main()***

***float roi;***

***roi = 10.00;***

***//it will print 6 digit decimal number after the decimal points.***

***printf("The rate of interest for the investment is %f \n", roi);***

***return 0;***

***}***

***3.#include <stdio.h>***

***int main()***

***{***

***float num1=8.15, num2=15.5;***

***printf("The value of num1 is %f \n", num1);***

***printf("The value of num2 is %f \n", num2);***

***return 0;***

***}***

***Double:***

***1. #include <stdio.h>***

***void main( )***

***{***

***double d = 71.2357455;***

***printf("The double value is: %lf \n", d);***

***}***

***#include<stdio.h>***

***int main( )***

***{***

***double d = 123.32445;***

***//using %f format specifier***

***printf("Value of d = %f\n",d);***

***//using %lf format specifier***

***printf("Value of d = %lf\n",d);***

***return 0;***

***}***

***Constant:***

***#include <stdio.h>***

***#define B 5***

***int main()***

***{***

***const int A=5;***

***int a=6;***

***a=a+1;***

***printf("%d \n",A);***

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

***printf("%d \n",B);***

***return 0;***

***}***

***Constant char:***

***1. #include <stdio.h>***

***int main( )***

***{***

***// constant char literal***

***const char charVal = 'A';***

***printf("Character Literal: %c\n",charVal);***

***return 0;***

***2. #include <stdio.h>***

***int main( )***

***{***

***const int a=23; // constant integer literal***

***printf("Integer literal : %d", a);***

***return 0;***

***}***

***3.#include <stdio.h>***

***int main( )***

***{***

***const float a=4.5; // constant float literal***

***const float b=5.6; // constant float literal***

***float sum;***

***sum=a+b;***

***printf("%f", sum);***

***return 0;***

***}***

***1. Arithmetic Operators***

***// Working of arithmetic operators***

***#include <stdio.h>***

***int main()***

***{***

***int a = 9,b = 4, 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;***

***}***

***2. Increment and Decrement Operators***

***// Working of increment and decrement operators***

***#include <stdio.h>***

***int main()***

***{***

***int a = 10, b = 100;***

***float c = 10.5, d = 100.5;***

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

***printf("--b = %d \n", --b);***

***printf("++c = %f \n", ++c);***

***printf("--d = %f \n", --d);***

***return 0;***

***}***

***3. Assignment Operators***

***// Working of assignment operators***

***#include <stdio.h>***

***int main()***

***{***

***int a = 5, c;***

***c = a; // c is 5***

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

***c += a; // c is 10***

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

***c -= a; // c is 5***

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

***c \*= a; // c is 25***

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

***c /= a; // c is 5***

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

***c %= a; // c = 0***

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

***return 0;***

***}***

***4. Relational Operators***

***// Working of relational operators***

***#include <stdio.h>***

***int main()***

***{***

***int a = 5, b = 5, c = 10;***

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

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

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

***printf("%d > %d is %d \n", a, c, a > c);***

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

***printf("%d < %d is %d \n", a, c, a < c);***

***printf("%d != %d is %d \n", a, b, a != b);***

***printf("%d != %d is %d \n", a, c, a != c);***

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

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

***printf("%d <= %d is %d \n", a, b, a <= b);***

***printf("%d <= %d is %d \n", a, c, a <= c);***

***return 0;***

***}***

***IF:***

***#include<stdio.h>***

***int main( )***

***{***

***int number=0;***

***printf("Enter a number:");***

***scanf("%d",&number);***

***if(number%2==0)***

***{***

***printf("%d is even number",number);***

***}***

***return 0;***

***}***

***IF else: (vote ) test :***

***#include <stdio.h>***

***int main( )***

***{***

***int age;***

***printf("Enter your age?");***

***scanf("%d",&age);***

***if(age>=18)***

***{***

***printf("You are eligible to vote...");***

***}***

***else***

***{***

***printf("Sorry ... you can't vote");***

***}***

***}***

***if-else-if statement:***

***1. #include<stdio.h>***

***int main( ){***

***int number=0;***

***printf("enter a number:");***

***scanf("%d",&number);***

***if(number==10){***

***printf("number is equals to 10");***

***}***

***else if(number==50){***

***printf("number is equal to 50");***

***}***

***else if(number==100){***

***printf("number is equal to 100");***

***}***

***else{***

***printf("number is not equal to 10, 50 or 100");***

***}***

***return 0;***

***}***

***2. #include <stdio.h> (test program)***

***int main( )***

***{***

***int marks;***

***printf("Enter your marks?");***

***scanf("%d",&marks);***

***if(marks > 85 && marks <= 100)***

***{***

***printf("Congrats ! you scored grade A ...");***

***}***

***else if (marks > 60 && marks <= 85)***

***{***

***printf("You scored grade B + ...");***

***}***

***else if (marks > 40 && marks <= 60)***

***{***

***printf("You scored grade B ...");***

***}***

***else if (marks > 30 && marks <= 40)***

***{***

***printf("You scored grade C ...");***

***}***

***else***

***{***

***printf("Sorry you are fail ...");***

***}***

***}***

***Nested If Else Statement:***

***1. #include <stdio.h>***

***int main( )***

***{***

***int score=78;***

***//Check if score is greater than 90***

***if(score>90)***

***{***

***printf("Gread: A\n");***

***}else{***

***//Score is 90 or below,check if score is greater than 80***

***if(score>80){***

***//Score is between 81 and 90,check if score is above 85***

***if(score>85){***

***printf("Gread:A-\n");***

***}else{***

***printf("Gread:B+\n");***

***}***

***}else{***

***//Score is 80 or below, check if score is above 70***

***if(score>70){***

***printf("Gread:C\n");***

***}else{***

***printf("Gread:D\n");***

***}***

***}***

***}***

***return 0;***

***}***

***1. #include <stdio.h> (test program)***

***int main( ) {***

***int age = 20;***

***// Check if age is less than 18***

***if (age < 18) {***

***printf("Category: Minor\n");***

***printf("Not eligible to vote.\n");***

***} else {***

***// Age is 18 or above, check if age is 65 or below***

***if (age < = 65) {***

***printf("Category: Adult\n");***

***printf("Eligible to vote.\n");***

***} else {***

***// Age is above 65***

***printf("Category: Senior\n");***

***printf("Eligible to vote.\n");***

***}***

***}***

***return 0;***

***}***

***2. #include <stdio.h> (test program)***

***int main( ) {***

***int isMember = 1; // 1 for member, 0 for non-member***

***float purchaseAmount = 120.0;***

***// Check if the customer is a member***

***if (isMember) {***

***// Member is true, check if purchase amount is over Rs.100***

***if (purchaseAmount > 100) {***

***printf("Discount: 10%%\n");***

***} else {***

***// Purchase amount is Rs.100 or less for a member***

***printf("Discount: 0%%\n");***

***}***

***} else {***

***// Customer is not a member, check if purchase amount is over Rs.150***

***if (purchaseAmount > 150)***

***{***

***printf("Discount: 5%%\n");***

***}***

***Else***

***{***

***// Purchase amount is Rs.150 or less for a non-member***

***printf("Discount: 0%%\n");***

***}***

***}***

***return 0;***

***}***

***Switch case:***

***1. #include <stdio.h>***

***int main( )***

***{***

***// switch variable***

***int var = 1;***

***// switch statement***

***switch (var)***

***{***

***case 1:***

***printf("Case 1 is Matched.");***

***break;***

***case 2:***

***printf("Case 2 is Matched.");***

***break;***

***case 3:***

***printf("Case 3 is Matched.");***

***break;***

***default:***

***printf("Default case is Matched.");***

***break;***

***}***

***return 0;***

***}***

***2. // C program to print the day using switch***

***#include <stdio.h>***

***// Driver Code***

***int main( )***

***{***

***int day = 2;***

***printf("The day with number %d is ", day);***

***switch (day) {***

***case 1:***

***printf("Monday");***

***break;***

***case 2:***

***printf("Tuesday");***

***break;***

***case 3:***

***printf("Wednesday");***

***break;***

***case 4:***

***printf("Thursday");***

***break;***

***case 5:***

***printf("Friday");***

***break;***

***case 6:***

***printf("Saturday");***

***break;***

***case 7:***

***printf("Sunday");***

***break;***

***default:***

***printf("Invalid Input");***

***break;***

***}***

***return 0;***

***}***

***3. // C Program to demonstrate the behaviour of switch case***

***// without break***

***#include <stdio.h>***

***int main( )***

***{***

***int var = 2;***

***// switch case without break***

***switch (var) {***

***case 1:***

***printf("Case 1 is executed.\n");***

***case 2:***

***printf("Case 2 is executed.\n");***

***case 3:***

***printf("Case 3 is executed.");***

***case 4:***

***printf("Case 4 is executed.");***

***}***

***return 0;***

***}***

***While:***

***1. #include<stdio.h>***

***int main( ){***

***int i=1;***

***while(i<=10)***

***{***

***printf("%d \n",i);***

***i++;***

***}***

***return 0;***

***}***

***2. #include<stdio.h>***

***int main( ){***

***int i=1,number=0,b=9;***

***printf("Enter a number: ");***

***scanf("%d",&number);***

***while(i<=10){***

***printf("%d \n",(number\*i));***

***i++;***

***}***

***return 0;***

***}***

***3. #include<stdio.h> (test program)***

***void main ()***

***{***

***int j = 1;***

***while(j+=2,j<=10)***

***{***

***printf("%d ",j);***

***}***

***printf("%d",j);***

***}***

***do while:***

***#include <stdio.h>***

***#include <string.h>***

***int main( )***

***{***

***char password[] = "secret";***

***char input[20];***

***do***

***{***

***printf("Enter the password: ");***

***scanf("%s", input);***

***}***

***while (strcmp(input, password) != 0);***

***printf("Access granted!\n");***

***return 0;***

***}***

***2.***

***#include <stdio.h>***

***int main() {***

***inti = 1;***

***do {***

***printf("%d\n", i);***

***i++;***

***} while (i<= 5);***

***return 0;***

***}***

***For:***

***1. // Print numbers from 1 to 10***

***#include <stdio.h>***

***int main( ) {***

***int i;***

***for (i = 1; i < 11; ++i)***

***{***

***printf("%d ", i);***

***}***

***return 0;***

***}***

***2. #include <stdio.h>***

***int main( ) {***

***int i, j, rows;***

***printf("Input number of rows : ");***

***scanf("%d", &rows);***

***for (i = 1; i <= rows; i++) {***

***for (j = 1; j <= i; j++)***

***printf("%d", j);***

***printf("\n");***

***}***

***return 0;***

***}***

***Break:***

***#include<stdio.h>***

***#include<stdlib.h>***

***void main ()***

***{***

***int i;***

***for(i = 0; i<10; i++) {***

***printf("%d ",i);***

***if(i == 5)***

***break;***

***}***

***printf("came outside of loop i = %d",i);***

***}***

***// Using break in a while loop***

***#include <stdio.h>***

***int main() {***

***inti = 1;***

***while (i<= 10) {***

***if (i == 5) {***

***break; // Exit the loop when i becomes 5***

***}***

***printf("%d ", i);***

***i++;***

***}***

***printf("\n");***

***return 0;***

***}***

***continue:***

***#include<stdio.h>***

***int main()***

***{***

***int i=1;//initializing a local variable***

***//starting a loop from 1 to 10***

***for(i=1;i<=10;i++)***

***{***

***if(i==5){//if value of i is equal to 5, it will continue the loop***

***continue;***

***}***

***printf("%d \n",i);***

***}//end of for loop***

***return 0;***

***}***