**General & Control Statement**

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| Program 1  **// *Any*  error ?**  # include <stdio.h>  int main()  {  int n;  printf ( "Enter a number :\ n”);  scanf(“%d\n", n);  printf("You entered %d \n",n);  getch( );  return 0;  } | Program 2  ***// Do you* see any error**  # include <stdio.h>  int main()  {  int a = a;  printf ("a : %d\n", a);  getch();  return 0;  } |
| Program 3  ***// Output = ?***  # include <stdio.h>  int main()  {  int i=43;  printf(“%d\n",printf(“%d”,printf(“%d",i)));  getch();  return 0;  } | Program 4 // Output =? #include <stdio.h>  #define HI 45  int main()  {  printf (“HI\n”) ;  getch() ;  return 0;  } |
| Program 5  ***// How many times programs* will wait *for user Input?***  # include <stdio.h>  int main( )  {  char c;  scanf("%c",*&c);*  printf(“%c\n”,c);  scanf (" %c”, &c);  printf("%c\n",c ) ;  return 0;  } | Program 6  **// Is it valid C program?**  # include <stdio.h>  int main( )  {  int a= 6;  printf (&a[“Hello World"]);  getch() ;  return 0;  } |

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| Program 7  **// *Write* a *C* "Hello Word" program without *semicolon [;]***  # include <stdio.h>  main( )  {  if (printf ( " Hello World ! ! !") )  { }  } | Program 8  **/\* consider that file zzz.h starts here \*/**  printf ( " Hello" ) ;  **/\* and ends here \*/**  void main( )  {  # include "zzz.h"  printf("World") ;  getch();  }  **// What is the output of above program** |
| Program 9  # include <stdio.h>  void disp()  {  printf(“ \n Hi ”);  main();  }  int main()  {  printf(“ \n Hello”);  disp();  } | Program 10  //c /c++  int main()  {  float a=0.7;  if(a < 0.7)  printf(“c”);  else  printf(“c++”);  getch();  } |
| Program 11  **//What would be output of the program?**  # include “stdio.h”  int main ()  {  int i = 4;  switch(i)  {  default:  printf(“DEFAULT...\n”);  case 1:  printf(“CASE 1...\n”);  break;  case 2:  printf(“CASE 2...\n”);  break;  case 3:  printf(“CASE 3...\n”);    }  getch();  } | Program 12  # include “stdio.h”  int main ()  {  int k=4;  switch(k)  {  default: printf(“A”);  case 1: printf(“B”);  case 4: printf(“C”);  case 2+3-1: printf(“D”);  }  getch();  return 0;  } |

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| **Program 13**  **// What would be the output of the program?**  #include “stdio.h”  int main()  {  int i = 4;  switch(i)  {  default :  printf(“DEFAULT...\n”);  case 1:  printf(“CASE 1...\n”);  break;  case i :  printf(“CASE 2...\n”);  break;  case 3 :  printf(“CASE 3...\n”);  }  getch();  } | Program 14  **//point out error or output?**  # include “stdio.h”  int main()  {  int i = 5:  switch(i)  {  case 1:  case 4:  case 8:  printf(“FIRST...\n”);  break;  case 20:  default:  case 30:  printf(“SECOND.../n”)  }  getch();  } |
| Program 15  **// What would be output of program?**  #include “stdio.h”  int main( )  {  int i = 4;  switch(i)  {  printf(“DEFAULT...\n”); /\*common for all cases\*/  case 2:  printf(“CASE 2...\n”);  break;  case 3:  printf(“CASE 3...\n”);  break;  case 4:  printf(“CASE 4...\n”);  }  getch();  } | |

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| Program 16  **Do you see any error here?**  # include <stdio.h>  int main( )  {  int a=1;  switch(a)  {  int z=20;  case 1: printf(“b is %d\n”,z);  break;  default: printf(“b is %d\n”,z);  break;  }  getch();  return 0;  } | Program 17  **//what will be the output of program**  # include <stdio.h>  int main()  {  int a=50;  switch(a)  {  case ‘1’:  printf(“ONE\n”);  break;  case ‘2’:  printf(“TWO\n”);  break;  default:  printf(“NONE\n”);  }  getch();  return 0;  } |
| Program 18  # include “stdio.h”  int main()  {  char c =’0’;  if(c) printf(“TRUE”);  else printf(“FALSE”);  getch();  } | Program 19  # include “stdio.h”  int main()  {  char c = ’0’;  if(-10)  printf(“1”);  if(0)  printf(“2”);  else  printf(“3”);  getch();  } |
| Program 20  # include “stdio.h”  int main( )  {  int i = 10;  if ( i > 1) printf(“1”);  if ( i > 5) printf(“5”);  if ( i > 9) printf(“9”);  if ( i > 10) printf(“10”);  else printf(“ELSE”);  getch ( ) ;  } | Program 21  #include “stdio.h”  int main()  {  int i = 10;    if( i > 1) printf(“1”);  else if( i > 5) printf(“5”);  else if( i > 9) printf(“9”);  else if( i > 10) printf(“10”);  else printf(“ELSE”);  getch();  } |

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| Program 22  # include “stdio.h”  int main()  {  int i = 10;  int j;  if(j = i) printf(“TRUE”);  else printf(“FALSE”);  getch();  } | Program 23  # include “stdio.h”  int main()  {  int i = 0;  int j;  if( j = i ) printf(“TRUE”);  else printf(“FALSE”);  getch( );  } |
| Program 24  # include “stdio.h”  int main()  {  int i = 10;  int j = 0;  if(“HI”) printf(“TRUE”);  else printf(“FALSE”);  getch();  } | Program 25  # include “stdio.h”  int main()  {  int i = 10;  int j = 0;  if (NULL) printf(“TRUE”);  else printf(“FALSE”);  getch();  } |
| Program 26  **POINT OUT ERROR / OUTPUT**  # include “stdio.h”  int main( )  {  float a = 0.7;  if(a < 0.7)  printf(“YES”);  else  printf(“NO”);  getch();  } | Program 27  **//Do you see any compile time error?**  **//if no what is the output?**  # include <stdio.h>  int main( )  {  while (1)  {  if (printf(“%d”,printf(“%d”)))  break;  else  continue;  }  getch( );  return 0;  } |

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| Program 28  **//What is the output of following code?**  # include <stdio.h>  int Check(int);  int main()  {  printf(“\n%d\t”,Check(100));  getch();  return 0;  }  int check(int a)  {  if(a%2==0)  {  return 1;  break;  }  return 0;  } | Program 29  # include “stdio.h”  int main( )  {  int k=3 ;  while (k)  {  int k= 1;  printf ("%d”, k) ;  k--;  }  getch( );  return 0;  } |
| Program 30  ***//what is the output of*  *following program?***  # include <stdio.h>  int main()  {  int cnt = 5, a;  do {  a /= cnt;  } while (cnt--) ;  printf ("%d\n", a);  getch () ;  return 0;  } | Program 31  # include “stdio.h”  int main()  {  int i = 10;  for( ; ; ) ;  printf( " I =%d , i ) ;  getch ( ) ;  } |
| Program 32  # include <stdio.h>  int main()  {  int i = 10;  for ( ; i ; i -- ) ;  printf(“%d”, i);  getch ( ) ;  } | Program 33  # include <stdio.h>  int main()  {  int i = 10;  for ( ; i ; i -- ) ;  if (i) printf(“%d”, i)  getch ( ) ;  } |

**C Operators:**

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| Program 1  ***//Point out* the error, *if any?***  # include “stdio.h”  int main( )  {  char str [ ] = "I am in Pune.”;  int a = 5;  printf (a>8 ? “%10s" : “%s", str);  getch( );  } | Program 2  ***//Point out* the *error? If any?***  # include “stdio.h”  int main( )  {  int a=10, b;  a>=5 ? b=100 : b=200;  printf("%d", b);  getch( ) ;  } |
| Program 3  ***//Point out* the *error? If any?***  # include “stdio.h”  int main( )  {  int a=10, b;  a>=5 ? b=100 : (b=200);  printf("%d", b);  getch( ) ;  } | Program 4  ***//Point out error/output***  # include “stdio.h”  int main( )  {  static int a[20];  int i = 0;  a[ i ] = ++i;  printf ("%d %d %d", a[0] , a[1], i) ;  getch( );  } |
| Program 5  **//Point *out error/output***  # include “stdio.h”  int main( )  {  int i = 8;  i = i++;  printf (“%d”, i) ;  getch( );  } | Program 6  **//Point *out error/output***  # include “stdio.h”  int main( )  {  int i = 8;  printf (“%d %d”, ++ i, ++i) ;  getch( );  } |
| Program 7  # include “stdio.h”  int main( )  {  int i = 10;  i= i + ++i;  printf (“I= %d ”, i) ;  getch( );  } | Program 8  # include “stdio.h”  int main( )  {  int i = 10;  i= i++ + ++i;  printf (“I= %d”, i) ;  getch( );  } |

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| Program 9  # include “stdio.h”  int main( )  {  int i = 10;  i= i++ + i;  printf (“I= %d ”, i) ;  getch( );  } | Program 10  # include “stdio.h”  int main( )  {  int i = 10;  i = ++ i + ++i;  printf (“I= %d”, i) ;  getch( );  } |
| Program 11  ***//Point out error/output***  # include “stdio.h”  int main()  {  int i = −3, j = 2, k = 0, m;  m = ++i && ++j || ++k;  printf (“%d%d %d %d”,i,j,k,m);  getch () ;  } | Program 12  **//Point out error/output**  # include “stdio.h”  int main( )  {  int i = −3, j = 2, k = 0, m;  m = ++j && ++i || ++k;  printf(“%d %d %d %d”,i,j,k,m);  getch();  } |
| Program 13  **//Point out error/output**  # include “stdio.h”  int main( )  {  int i = −3, j = 2, k = 0, m;  m=++i && ++j && ++k;  printf(“%d %d %d %d”, i, j, k, m);  getch();  } | Program 14  **//what is the output of the following code ?**  # include <stdio.h>  int main( )  {  int a=14;  a + = 7;  a − = 5;  a \* = 7;  printf(“\n%d ”,a);  getch( );  return 0;  } |
| Program 15  **//what is output of following code?**  # include<stdio.h>  int main( )  {  int a = 5;  printf( “%d %d %d %d”,a++, a --,++a, --a,a);  getch( );  } | Program 16  # include ”stdio.h”  static int x = 3, y , z;  int main( )  {  int a;  a=x++ \* y++ + ++z;  printf(“%d”, a);  getch( );  } |

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| Program 17  ***//Point out error/output***  # include “stdio.h”  int main()  {  int i=2 , j=3;  if(++i > 2 || j++ == 4)  printf(%d %d", i, j);  else if( j++ > 4 && i++ > 0)  printf (“%d %d", i, j);  else  printf (“%d %d", i, j) ;  getch( );  } | Program 18  ***//Point out error/output***  #include “stdio.h”  int fun( int a)  {  a >10 ? return 10: return 20;  }  int main( )  {  int a=11;  printf(“%d”,fun(a));  getch( )  } |
| Program 19  ***// i = ?***  # include <stdio.h>  int main ( )  {  int i = 1,2 ,3 ;  printf(“ i : %d\n” ,i);  getch( );  return 0;  } | Program 20  ***// i = ?***  # include <stdio.h>  int main ( )  {  int i;  i =1, 2 ,3 ;  printf(“ i : %d\n” ,i);  getch( );  return 0;  } |
| Program 21  ***// i =?***  #include <stdio.h>  int main ( )  {  int i;  i=1, 2 , 3 , i++ ;  printf(“ i:%d\n” ,i);  getch( );  return 0;  } | Program 22  #include “stdio.h”  int main ( )  {  int i = 10;  int j = 0;  if(j, i) printf(“TRUE”);  else printf(“FALSE”);  getch( );  } |

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| **Program 23**  #include “stdio.h”  int main( )  {  int i = 10;  int j = 0;  if( i, j ) printf(“TRUE”);  else printf(“FALSE”);  getch();  } | Program 24  ***// what are the final value of C and D?***  # include “stdio.h”  int main( )  {  int A=0, B=0, C=0, D=0;  if ((A==B) && (A\*B<=B))  {  if(D==1) C=1;  else  if(A==1) C=2;  }  else  C=3;  if((B==0) && (A==B) && (A!=1))  D =1;  printf( “C=%d, D=%d”, C, D);  getch( );  } |
| Program 25  # include <stdio.h>  int main( )  {  int i = 10;  printf(“i : %d\n”,i);  printf(“sizeof (i++) is: %d\n”, sizeof  (i++));  printf(“i ; %d\n”, i);  getch( );  return 0;  } | Program 26  # include <stdio.h>  main( )  {  char ch= ’A’;  printf(“ %d %d ”,sizeof(ch) ,size of ( ‘A’));  getch( );  } |
| Program 27  **//what is output of following program?**  # include <stdio.h>  int main( )  {  int i = 6;  if( (++i < 7)&&(i++/6) );  printf(“%d\n”,i);  getch ( );  return 0;  } | Program 28  **//what is output of following program?**  # include<stdio.h>  int main( )  {  int i = 6;  if( ((++i < 7)&&( i++/6)) || (++i<=9) );  printf(“%d\n”,i);  getch ( );  return 0;  } |

**C Operator Precedence Table:**

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| **category** | **Operator** | **Associativity** |
| Postfix | () [] -> . ++ - - | Left to right |
| Unary | + - ! ~ ++(type)\* & size of ( ) | Right to left |
| Multiplicative | \* / % | Left to right |
| Additive | + - | Left to right |
| Shift | << >> | Left to right |
| Relational | << =>> = | Left to right |
| Equality | ==! = | Left to right |
| Bitwise AND | & | Left to right |
| Bitwise XOR | ^ | Left to right |
| Bitwise OR | l | Left to right |
| Logical AND | && | Left to right |
| Logical OR | ll | Left to right |
| Conditional | ?: | Right to left |
| Assignment | =+= - =\*=/=%=>>=<<=&=^= l= | Right to left |
| Comma | , | Left to right |

**C Pointers & Array**

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| Program 1  **// What will be the output?**  #include “stdio.h”  int main()  {  char \*p;  printf(“%d %d ”, sizeof(\*p) , sizeof(p));  getch();  return 0;  } | Program 2  **//point of error / output**  #include “stdio.h”  int main()  {  int arr[] = {1,2,3,4,5};  printf(“%d %d %d”, sizeof(arr), sizeof(\*arr),  sizeof(arr[0]));  getch();  } |
| Program 3  **//What will be the output**  #include <stdio.h>    int main()  {  printf(“%x”, main);  getch();  return 0;  } | Program 4  #include “stdio.h”  void fun(char \* ptr)  {  ptr = “Hello”;  }  int main()  {  char \* ptr = “HI”;  fun(&ptr);  printf(“%s”, ptr);  getch();  return 0;  } |
| **Program 5**  **//what will be the output?**  #include <stdio.h>  main()  {  char \*p;  p=”Hello”;  printf(“%c\n”,\*&\*p);  getch();  return 0;  } | **Program 6**  #include “stdio.h”  void fun(int arr[5])  {  printf(“%d”, sizeof(arr));  }  int main()  {  int arr[5] = {0,1,2,3,4};  printf(“%d ”,sizeof(arr));  fun(arr);  getch();  return 0;  } |

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| **Program 7**  **// Do you see any compile time error?**  #include “stdio.h”  int main()  {  int i = 10;  int \*ptr = &i;  void \*vptr = ptr;  (\*ptr)++;  vptr++;  printf(“%d ”,i);  getch();  return 0;  } | **Program 8**  **// Do you see any compile time error?**  #include “stdio.h”  void fun(int arr[1])  {  arr[4] = 5;  }  int main()  {  int arr[5] = {0,1,2,3,4};  fun(arr);  printf(“%d ”,arr[4]);  getch();  return 0;  } |
| **Program 9**  **// Do you see any compile time error?**  #include “stdio.h”  int main()  {  extern int str[];  printf(“%d”, sizeof(str));  getch();  return 0;  } | Program 10  **// Do you see any compile time error?**  # include “stdio.h”  int main()  {  extern int str[ ];  printf(“%d”,size of(str[0])) ;  getch( );  return 0;  } |
| Program 11  **//Do you see any compile time error?**  # include “stdio.h”  int main()  {  int arr[2][3]={  0,1,2,  3,4,5  };  int \*ptr = arr;  int (\*pptr)[3] = arr;  printf(“%x %x %x\n”,arr ,ptr ,pptr);  ptr++;  pptr++;  printf(“%x %x %x”,arr ,ptr ,pptr);  getch();  return 0;  } | Program 12  **// Point of error /output**  #include “stdio.h”  int main()  {  int i = 5;  int j = 6;  int k = 7;  int \*ptr = &k;  printf(“%d”, \*ptr);  printf(“%d”, \*(++ptr));  printf(“%d”, \*(++ptr));  getch();  } |

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| Program 13  **// Point of error /output**  #include <stdio.h>  int main( )  {  int i = 5;  int j = 6;  int k = 7;  int \*ptr = &k;  printf(“%d”,\*ptr);  printf(“%d”,\*(ptr++) );  printf(“%d”,\*(++ptr) );  getch( );  } | Program 14  **// Point of error /output**  #include <stdio.h>  int main()  {  int i = 5;  int j = 6;  int k = 7;  int \*ptr = &k;  printf(“%d”,(\*ptr) );  printf(“%d”,(\*ptr)++);  printf(“%d”,++(\*ptr) );  getch();  } |
| Program 15  **// Point of error /output**  #include “stdio.h”  int main( )  {  int i = 5;  int j = 6;  int k = 7;  int \*ptr = &k;  printf(“%d”, \*ptr);  printf(“%d”, \*ptr++);  printf(“%d”, ++\*ptr);  getch( );  } | Program 16  // Output ?  #include <stdio.h>  int main()  {  printf(“%d %d”,sizeof(NULL),sizeof(“”));  getch();  } |