Bitwise operations

What will be the output of the following program:

# include <stdio.h>

int main( )

{

int i = 32, j = 65, k, l, m, n, o, p ;

k = i | 35 ;

l = ~k ;

m = i & j ;

n = j ^ 32 ;

o = j << 2 ;

p = i >> 5 ;

printf ( "k = %d l = %d m = %d\n", k, l, m ) ;

printf ( "n = %d o = %d p = %d\n", n, o, p ) ;

return 0 ;

}

K= 35 l = -36, m=0

N = 97 o=260 p=1

Rewrite the following expressions using bitwise compound

assignment operators:

a = a | 3

a = a & 0x48

b = b ^ 0x22

c = c << 2

d = d >> 4

* a |= 3
* a &= 0x48
* b ^= 0x22
* c <<= 2

d >>= 4

Which function would you use if a single key were to be received

through the keyboard?

1. scanf( )

2. gets( )

3. getche( )

4. getchar( )

What is the output of the following code?

# include <stdio.h>

int main( )

{

printf ( "More often than \b\b not \rthe person who \

wins is the one who thinks he can!\n" ) ;

return 0 ;

}

the person who wins is the one who thinks he can!

include <stdio.h>

int main( )

{

int i = 2 ;

float f = 2.5367 ;

char str[ ] = "Life is like that" ;

printf ( "%4d\t%3.3f\t%4s\n", i, f, str ) ;

return 0 ;

}

2 2.537 Life

# include <stdio.h>

int main( )

{

int arr[ ] = { 'A', 'B','C', 'D' } ;

int i ;

for ( i = 0 ; i <= 3 ; i++ )

printf ( "%d ", arr[i]);

printf ( "\n" ) ;

return 0 ;

}

ASCII values are printed

When you pass an array as an argument to a function, what actually

gets passed?

1. Address of the array

2. Values of the elements of the array

3. Address of the first element of the array

4. Number of elements of the array

Address of the first element of the array

Pointer

Are the expressions **\*ptr++** and **++\*ptr** same?

Different. \*ptr++ increments pointer, ++\*ptr increments value at the address pointed

Add the missing statement for the following program to print 35:

# include <stdio.h>

int main( )

{

int j, \*ptr ;

\*ptr = 35 ;

printf ( "%d\n", j ) ;

return 0 ;

}

**ptr = &j;**

**3.37** Suppose x, y and z are floating-point variables that have been assigned the values x = 8.8, y = 3.5 and z = -5.2.

Determine the value of each of the following arithmetic expressions

***(a)*** x + y + z

*(b)* 2 \* y + 3 \* ( x - z )

(c)x / y

(d) x % Y

**(a) 7.1, (b) 49 (c) 2.51429 (d) remainder operation not defined for float**

**3.36 a = 8, b = 3, c = -5**

**Calculate a%c, a\*b/c, a\*(b/c), (a\*c) %b, a\* (c%b)**

**Ans: 3, -4, 0, -1, -16**

**3.6 Which of the following arithmetic expressions are valid? If valid, give the value of the expression; otherwise give reason.**

**(a) 25/3 % 2 (e) –14 % 3**

**(b) +9/4 + 5 (f) 15.25 + – 5.0**

**(c) 7.5 % 3 (g) (5/3) \* 3 + 5 % 3**

**(d) 14 % 3 + 7 % 2 (h) 21 % (int)4.5**

**3.9 Determine the value of each of the following logical expressions if**

**a = 5, b = 10 and c = –6**

**(a) a > b && a < c**

**(b) a < b && a > c**

**(c) a == c || b > a**

**(d) b > 15 && c < 0 || a > 0**

**(e) (a/2.0 == 0.0 && b/2.0 != 0.0) || c < 0.0**





