§2.数据类型和表达式 - 概念题 – PART II

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1. **给出下列程序段中变量b的值（仿照PDF的P.20-26给出分析）**

A.short a=32000;

short b=a+2000;

a = 01111101 00000000 = 32000

b = 10000100 11010000 = 32000 – 2 \* 32768 = -31536

B.unsigned short a=50000;

short b=a;

a = 11000011 01010000 = 50000

b = 11000011 01010000 = 50000 – 2 \* 32768 = -15536

C.short a=-1025;

int b=a;

a = 填充符号位 11111011 11111111 = -1025

b = 11111111 11111111 11111011 11111111 = -1025

D.unsigned short a=50000;

int b=a;

a = 填充0 11000011 01010000 = 50000

b = 00000000 00000000 11000011 01010000 = 50000

E.int a=80000;

short b=a;

a = 00000000 00000001 00111000 10000000 = 80000

b = 00111000 10000000 = 80000 – 65536 = 14464

F.long a=-100;

unsigned short b=a;

a = 11111111 11111111 11111111 10011100 = -100

b = 11111111 10011100 = -100 + 65546 = 65436

1. **P.40 习题 5 （每小题均要求按计算顺序给出每步的步骤）**

3.5 \* 3 + 2 \* 7 -‘a’

= 10.5 + 2 \* 7 -‘a’

= 10.5 + 14 -‘a’

= 24.5 -‘a’

= -72.5

26 / 3 + 34 % 3 + 2.5

= 8 + 34 % 3 + 2.5

= 8 + 1 + 2.5

= 9 + 2.5

= 11.5

45 / 2 + (int)3.14159 / 2

= 22 + (int)3.14159 / 2

= 22 + 3 / 2

= 22 + 1

= 23

a = b = ( c = a += 6 )

= a = b = ( c = 9 )

= a = b = 9

= a = 9

= 9

a = 3 \* 5, a = b = 3 \* 2

= a = 15, a = b = 3 \* 2

= 15, a = b = 3 \* 2

= 15, a = b = 6

= 15, a = 6

= 15, 6

= 6

(int)( a + 6.5 ) % 2 + ( a = b = 5 )

= (int)9.5 % 2 + ( a = b = 5 )

= 9 % 2 + ( a = b = 5 )

= 1 + ( a = b = 5 )

= 1 + ( a = 5 )

= 1 + 5

= 6

x + a % 3 \* (int)(x + y) % 2 / 4

= x + 1 \* (int)(x + y) % 2 / 4

= x + 1 \* (int)(7.2) % 2 / 4

= x + 1 \* 7 % 2 / 4

= x + 7 % 2 / 4

= x + 1 / 4

= x + 0

= 2.5

**(**float)(a + b) / 2 + (int)x % (int)y

= **(**float)5 / 2 + (int)x % (int)y

= 5.0 / 2 + (int)x % (int)y

= 2.5 + (int)x % (int)y

= 2.5 + 3 % (int)y

= 2.5 + 3 % 2

= 2.5 + 1

= 3.5

1. **P.40 习题 6 （每小题均要求按计算顺序给出每步的步骤）**

a += a

a = a + a +=展开 a = 12 + 12 a = 24

a = 24

a -= 3

a = a - 3 -=展开 a = 12 – 3 a = 9

a = 9

a \*= 2 + 3

a \*= 5 +优先级高 2 + 3 a = 12

a = a \* 5 \*=展开 a = 12 \* 6 a = 72

a = 60

a /= a + a

a /= 24 +优先级高 a + a a = 12

a = a / 24 /=展开 a = 12 / 24 a = 0

a = 0 //a为整形变量

a %= (n %= 2)

a %= (n = n % 2) %=优先级高 5 % 2 a = 12

a %= (n = 1) 赋值 sn = 1 a = 12

a %= 1 取运算表达式的左值 a = 12

a = a % 1 %=展开 a = 0

a = 0

a+=a-=a\*=a

a+=a-=(a=a\*a) 右结合性\*= 12 \* 12 a = 12

a+=a-=(a=144) 赋值 a = 144 a = 144

a+=a-=144 取表达式的左值 a = 144

a+=(a=a-144) -=优先级高 144 - 144 a = 144

a+=(a=0) 赋值 a = 0 a = 0

a+=0 +=展开 a = a + 0 a = 0

a=a+0 +运算 a = a + 0 a = 0

a = 0

1. **已知 int b=7; double a=2.5,c=4.7; 写出表达式 a+(int)(b/3\*(int)(a+c)/2)%4 最后的结果并说明其数据类型是实型还是整型(要求按计算顺序给出每步的步骤)。**

a + (int)(b / 3 \* (int)(a + c) / 2) % 4

=a + (int)(2 \* (int)(a + c) / 2) % 4

=a + (int)(2 \* (int)7.2 / 2) % 4

=a + (int)(2 \* 7 / 2) % 4

=a + (int)(14 / 2) % 4

=a + (int)7 % 4

=a + 7 % 4

=a + 3

=5.5

1. **已知int m=5, y=21; 则表达式 y+=y-=m\*=y 执行后，y的值是多少？(要求按计算顺序给出每步的步骤)**

y += y -= m \*= y

y += y -= m = m\*y \*=展开

y += y -= m =105 m\*y

y += y -= 105 赋值，并取左值

y += y= -84 -=展开

y += -84 +=展开

y = y + -84 y + -84

y = -168

**【作业要求：】**

1、**10月18日前**网上提交本次作业，本文件转换为2-b2.pdf后提交即可

2、每题所占平时成绩的具体分值见网页

3、超过截止时间提交作业会自动扣除相应的分数，具体见网页上的说明