details of expressions

expression	result
6+2-3	5
6+2*3	12
13%5	3
89%10	9
15/3	5
14/3	4 (4 not 4.666 not 4.0 not 4)
999/100	9
9/10	0

Remainder

expression	result
6.0+2.0-3.0	5.0
14.0/3.0	4.666-----6 (15-16 digits)
999.0/100.0	9.99
9.0/10.0	0.9
89.0%10.0	Illegal % is int only
14.0f/3.0f	4.666666f (7-8)

mixed mode

9.0/10

mixed mode arithmetic

let ★ be any operation +, -, *, /

i ★ i ⇒ i

i ★ f ⇒ f

f ★ i ⇒ f

f ★ f ⇒ f

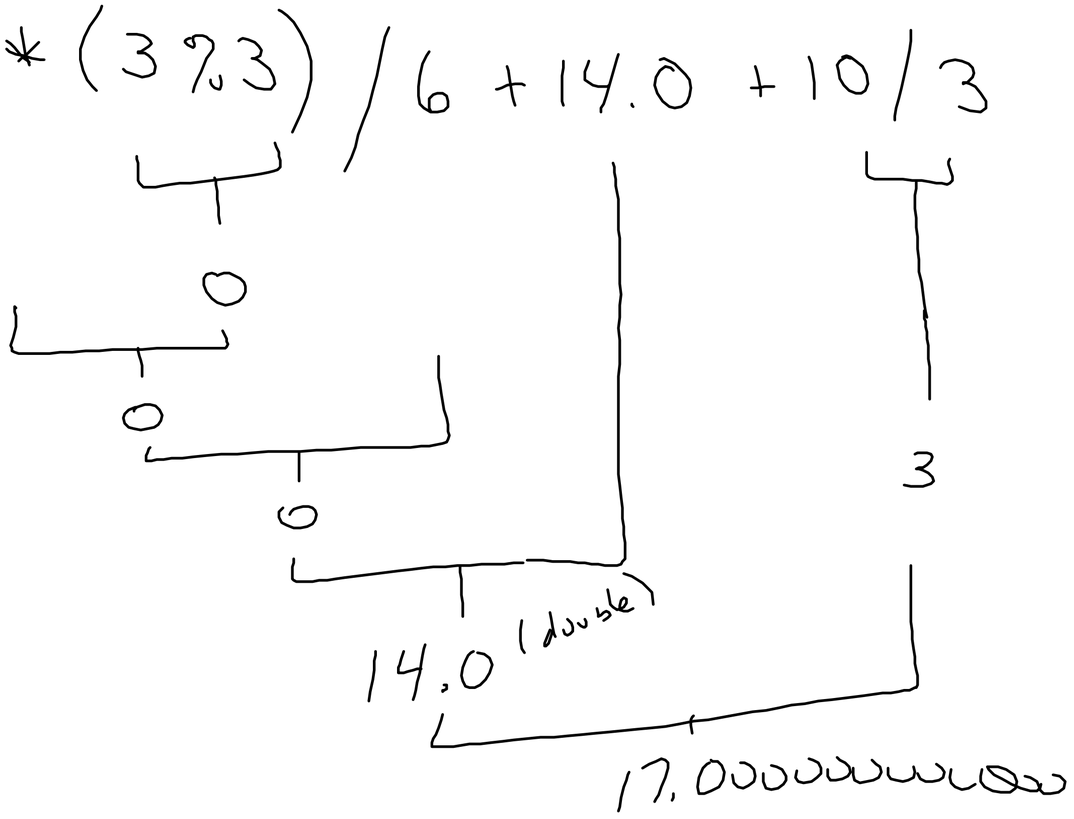
d ★ i
i ★ d
d ★ f
f ★ d
d ★ d
} ⇒ d

changing modes accross equal sign

```
int i;
float f;
double d;
```

// statement	value of i, f, d
d = 9.0/10.0;	0.9 (double)
d = 9/10;	0.0 (double)
d = 14.0f/3.0f;	4.666666 0000 = >
d = 14.0/3.0;	4.666666666666666

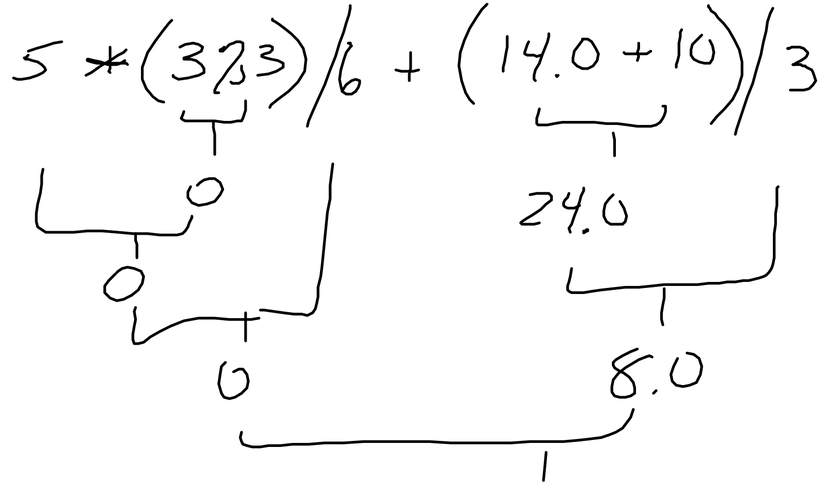
#16


5 * (3 % 3) / 6 + 14.0 + 10 / 3
0
0
0
14.0 (double)
3
17.000000000000

( )

% * / L→R

+ - L→R


5 * (3 % 3) / 6 + (14.0 + 10) / 3
0
0
24.0
0
8.0
1
8.000000000000

NOTE: ^ IS NOT power

operation for Square root

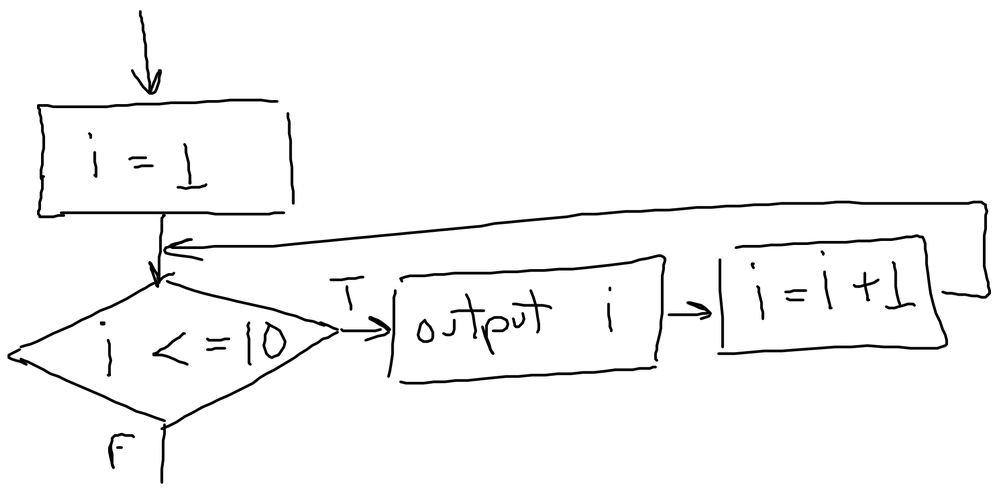
```
double d,e,f;

e = 81.0;
d = sqrt(e);
d = sqrt(e+16.0);

f = sqrt(100.0);
```

operation for power

```
double d,e,f;
f = 6.0;
d = pow(f,2); // d becomes 36.000000000
f = 0.5
e = 144.0;
d = pow(e,f); //d becomes 12.000000000
```

or 2.0

// print values 1 to 10




```
i = 1;
while (i<=10)
{
    printf("%d ", i);
    i = i + 1;
}
```

no; after while

i

1 2 3 ... 9 10 11

F T

auto

Very Important: MUST CHANGE CONDITION IN LOOP

1 2 3 ... 8 9 10

```
// print values 10,9,.. to 0

c =10;
while (c >=0)
{
   printf("%d  ", c);
   c = c -1;
}
```

```
// get response from user
// insure its 1 or 2

printf("Enter 1 for yes, 2 for no");
scanf("%d", &ans);
while (!((ans==1)||(ans==2)))
{
   printf("Read the directions — BONEHEAD\n");
   printf("Enter 1 for yes, 2 for no");
   scanf("%d", &ans);
}
// if here ans is 1 or 2
```

newline

logical OR

NOT