```asm
.data
determinant: .asciiz "aX2 + bX"
A: .asciiz "\nEneter value for a = "
B: .asciiz "\nEneter value for b = "
C: .asciiz "\nEneter value for c = "
error: .asciiz "\nThis equation has a complex root it cannot be solved.\nTry again!!!!!!!"
answer: .asciiz "\nThe two value for x = "
continue: .asciiz "\nEnter 1 to continue, Enter any other number to quit = "
gtb: .asciiz " & "
Float: .float 0.0
one: .float -1.0
four: .float 4
two: .float 2
git: .word 1
.text
lw $t3,git


li $v0,4
la $a0,determinant
syscall


main:
lwc1 $f4,Float
lwc1 $f2,one
lwc1 $f20,two
lwc1 $f18,four



li $v0,4#ask for first input
la $a0,A
syscall
```

```asm
    li $v0,6
    syscall
mov.s $f6,$f0


    li $v0,4 #ask for second input
    la $a0,B
    syscall


    li $v0,6
    syscall
mov.s $f8,$f0


li $v0,4#ask for third input
    la $a0,C
    syscall


    li $v0,6
    syscall
    mov.s $f10,$f0


mul.s $f14,$f8,$f8 #b2
mul.s $f2,$f8,$f2 #-b value
mul.s $f16,$f6,$f10   #ac
mul.s $f10,$f18,$f16 #4ac
sub.s $f22,$f14,$f10 #b2-4ac
mfc1 $t1,$f22
bltz $t1 complexRoot
sqrt.s $f28,$f22 #sqrt(b2-4ac)
```

```
add.s $f22,$f2,$f28 #-b+sqrt(b2-4ac)

sub.s $f24,$f2,$f28 #-b-sqrt(b2-4ac)

mul.s $f16,$f20,$f6 #2a check $f16 if errorr

div.s $f26,$f22,$f16#(-b+sqrt(b2-4ac))/2a

div.s $f30,$f24,$f16#(-b-sqrt(b2-4ac))/2a


li $v0,4
 la $a0,answer
 syscall



 li $v0,2
 add.d $f12,$f4,$f26
 syscall
 li $v0,4
 la $a0,gtb
 syscall


 li $v0,2
 add.d $f12,$f4,$f30
 syscall
b continue
complexRoot:
li $v0,4
la $a0,error
syscall
j main
continues:
li $v0,4
la $a0,continue
syscall
```

```
li $v0,5

syscall

move $t0,$v0

beq $t0,$t3,main #branch main if input = 1


li $v0,10

syscall
```