

二次（不）等式求解

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众所周知，二次（不）等式是数学学习中的基础，也是一个重点，因此熟练掌握其性质是一个关键。为了在研究二次（不）等式的过程中避免大量烦琐的计算，所以，我运用TI-83 计算器设计了这一程序。只要输入二次（不）等式的系数 a、b、c，既可知晓答案。需要注意的是，其中二次系数必须大于零，在程序中我也体现了这一点。

执行程序：

```
二次方程
求解器
SHI XI MIDDLE SCHOOL 1.0

INPUT A,B,C
2 X^2+1 X+1
CHOICE:1.= 2.> 3.≥
          4.< 5.≤
A=?2
B=?1
C=?1
```

```
INPUT A,B,C
2 X^2+1 X+1 =0
NO ANSWER
A=?2
B=?1
C=?1
```

这个是方程求解

```
INPUT A,B,C
1 X^2+2 X+3 >0
(-∞,-1) ∪ (3,+∞)
A=?1
B=?-2
C=?-3
```

这个是不等式的解集

具体程序如下：

程序 BEGIN:

```
PROGRAM:BEGIN
:ClrDraw
:FnoFF :AxesOff
:For(Z,1,20)
:RecallPic 0
:End
:Horiz
:ClrDraw
```

```
PROGRAM:BEGIN
:FnoFF :AxesOff
:For(Z,1,20)
:RecallPic 0
:End
:Horiz
:ClrDraw
:Pr9mINDEX
```

程序 INDEX:

```
PROGRAM:INDEX
:Lbl 1
:ClrDraw
:Text(0,0,"INPUT
A,B,C")
:Lbl 0
:Prompt A
:If A≤0
```

```
PROGRAM:INDEX
:Then
:Goto 0
:End
:Text(0,40,"
")
```

```
PROGRAM:INDEX
:Text(10,0,A)
:Text(10,12,"X²+
")
:Prompt B
:Text(10,24,B)
:Text(10,36,"X+
")
```

```
PROGRAM:INDEX
:Prompt C
:B²-4AC→D
:Text(10,44,C)
:Text(16,0,"CHOI
CE:1.=
2.>
3.≥")
```

```
PROGRAM:INDEX
:Text(24,0,"
4.<
5.≤")
:
:For(Y,1,10000)
:getKey→W
```

```
PROGRAM:INDEX
:If W=92
:Then
:Pr9mDENG
:Goto 2
:End
:
:If W=93
```

```
PROGRAM:INDEX
:Then
:Pr9mDA
:Goto 2
:End
:
:If W=94
:Then
```

```
PROGRAM:INDEX
:Pr9mDDA
:Goto 2
:End
:
:If W=82
:Then
:Pr9mXIAO
```

```
PROGRAM:INDEX
:Goto 2
:End
:
:If W=83
:Then
:Pr9mDXIAO
:Goto 2
```

```
PROGRAM:INDEX
:End
:
:End
:Lbl 2
:Menu("CHOICE","
GO ON",1,"EXIT",
J)
```

```

PROGRAM: INDEX
:End
:Lbl 2
:Menu("CHOICE", "
GO ON", 1, "EXIT",
J)
:Lbl J
:PrgmEND

```

程序 DENG:

```

PROGRAM: DENG
:Text(10,56,"=0"
:Text(16,0,"

```

```

PROGRAM: DENG
:Text(24,0,"
")
:If D>0

```

```

PROGRAM: DENG
:Then
:Text(20,0,"X1="
)
:Text(20,12,(-B-
√(D))/(2A))
:Text(20,40,"X2
=")

```

```

PROGRAM: DENG
:Text(20,52,(-B+
√(D))/(2A))
:Pause
:End
:If D=0
:Then

```

```

PROGRAM: DENG
:Text(20,0,"X1=X
2=")
:Text(20,24,-B/(
2A))
:Pause
:End
:

```

```

PROGRAM: DENG
:If D<0
:Then
:Text(20,0,"NO A
NWSER")
:Pause
:End

```

程序 DA:

```

PROGRAM: DA
:Text(10,56,">0"
:Text(16,0,"

```

```

PROGRAM: DA
:Text(24,0,"
")
:If D>0

```

```
PROGRAM: DA
: Then
: Text(20,0,"(-□□
:")
: Text(20,18,(-B-
√(D))/(2A))
: Text(20,40,")u
(")
```

```
PROGRAM: DA
: Text(20,52,(-B+
√(D))/(2A))
: Text(20,64,",+□
□)")
: Pause
: End
:
```

```
PROGRAM: DA
:
: If D≤0
: Then
: Text(20,0,"NO A
NUSER")
: Pause
: End
```

程序 DDA:

```
PROGRAM: DDA
: Text(10,56,"≥0"
: Text(16,0,"
```

```
PROGRAM: DDA
: Text(24,0," "
:
: If D>0
```

```
PROGRAM: DDA
: Then
: Text(20,0,"[-□□
:")
: Text(20,18,(-B-
√(D))/(2A))
: Text(20,40,"]u
[")
```

```
PROGRAM: DDA
: Text(20,52,(-B+
√(D))/(2A))
: Text(20,64,",+□
□]")
: Pause
: End
:
```

```
PROGRAM: DDA
:
: If D≤0
: Then
: Text(20,0,"ALL"
)
: Pause
: End
```

程序 XIAO:

<pre>PROGRAM:XIAO :Text(10,56,"<0" :Text(16,0,"</pre>	<pre>PROGRAM:XIAO :Text(24,0," :Text(24,0," :Text(24,0," :Text(24,0," :If D>0</pre>
<pre>PROGRAM:XIAO :Then :Text(20,0,"(") :Text(20,4,(-B-√ (D))/√(2A)) :Text(20,40,",") :Text(20,52,(-B+</pre>	<pre>PROGRAM:XIAO √(D))/√(2A)) :Text(20,64,")") :Pause :End :If D≤0</pre>
<pre>PROGRAM:XIAO :If D≤0 :Then :Text(20,0,"NO A NUSER") :Pause :End</pre>	

程序 DXIAO:

<pre>PROGRAM:DXIAO :Text(10,56,"≤0" :Text(16,0,"</pre>	<pre>PROGRAM:DXIAO :Text(24,0," :Text(24,0," :Text(24,0," :Text(24,0," :If D>0</pre>
<pre>PROGRAM:DXIAO :Then :Text(20,0,"[") :Text(20,4,(-B-√ (D))/√(2A)) :Text(20,40,",") :Text(20,52,(-B+</pre>	<pre>PROGRAM:DXIAO √(D))/√(2A)) :Text(20,70,"]") :Pause :End :If D=0</pre>

```
PROGRAM:DXIAO
:Then
:Text(20,0,"("
:Text(20,4,(-B)/
(2A))
:Text(20,20,")"
:Pause
:End
```

```
PROGRAM:DXIAO
:
:If D<0
:Then
:Text(20,0,"NO A
NUSER")
:Pause
:End
```

程序 END:

```
PROGRAM:END
:ClrDraw
:Full
:Stop
```