

```
1 namespace Re_NONA_.Elecment
2 {
3     using System;
4     using System.Threading;
5     internal class And : Tools
6     {
7         public And()
8         {
9             stop2:
10             Console.Write("输入A:");
11             try
12             {
13                 base.inputIndexA = Convert.ToInt32(Console.ReadLine());
14             }
15             catch
16             {
17                 Console.WriteLine("输入错误");
18                 goto stop2;
19             }
20             stop3:
21             Console.Write("输入B:");
22             try
23             {
24                 base.inputIndexB = Convert.ToInt32(Console.ReadLine());
25             }
26             catch
27             {
28                 Console.WriteLine("输入错误");
29                 goto stop3;
30             }
31             stop4:
32             Console.Write("输出:");
33             try
34             {
35                 base.outputIndex = Convert.ToInt32(Console.ReadLine());
36             }
37             catch
38             {
39                 Console.WriteLine("输入错误");
40                 goto stop4;
41             }
42             Console.Write("可延迟?(y/n)");
43             switch (Console.ReadLine())
44             {
45                 case "y":
46                     base.ifWaitCtrl = true;
47                     break;
48             }
49         }
50
51         public And(uint iA, uint iB, uint o, bool iWC)
52         {
53
```

```
54         base.ToolsNumber = Tools.Number;
55         Tools.Number++;
56         base.inputIndexA = iA;
57         base.inputIndexB = iB;
58         base.outputIndex = o;
59         base.waitForOutput = Port.ports[iA] && Port.ports[iB];
60         base.ifWaitCtrl = iWC;
61     }
62
63     public void PreRun()
64     {
65         base.waitForOutput = Port.ports[base.inputIndexA] && Port.ports
        [base.inputIndexB];
66     }
67 }
68 internal class Or : Tools
69 {
70     public Or()
71     {
72         stop2:
73         Console.Write("输入A:");
74         try
75         {
76             base.inputIndexA = Convert.ToInt32(Console.ReadLine());
77         }
78         catch
79         {
80             Console.WriteLine("输入错误");
81             goto stop2;
82         }
83         stop3:
84         Console.Write("输入B:");
85         try
86         {
87             base.inputIndexB = Convert.ToInt32(Console.ReadLine());
88         }
89         catch
90         {
91             Console.WriteLine("输入错误");
92             goto stop3;
93         }
94         stop4:
95         Console.Write("输出:");
96         try
97         {
98             base.outputIndex = Convert.ToInt32(Console.ReadLine());
99         }
100        catch
101        {
102            Console.WriteLine("输入错误");
103            goto stop4;
104        }
105        Console.Write("可延迟?(y/n)");
```

```
106         switch (Console.ReadLine())
107         {
108             case "y":
109                 base.ifWaitCtrl = true;
110                 break;
111         }
112     }
113     public Or(uint iA, uint iB, uint o, bool iWC)
114     {
115         base.ToolsNumber = Tools.Number;
116         Tools.Number++;
117         base.inputIndexA = iA;
118         base.inputIndexB = iB;
119         base.outputIndex = o;
120         base.waitForOutput = Port.ports[base.inputIndexA] || Port.ports
121             [base.inputIndexB];
122         base.ifWaitCtrl = iWC;
123     }
124     public void PreRun()
125     {
126         base.waitForOutput = Port.ports[base.inputIndexA] || Port.ports
127             [base.inputIndexB];
128     }
129     internal class Nand : Tools
130     {
131     public Nand()
132     {
133         stop2:
134         Console.Write("输入A:");
135         try
136         {
137             base.inputIndexA = Convert.ToUInt32(Console.ReadLine());
138         }
139         catch
140         {
141             Console.WriteLine("输入错误");
142             goto stop2;
143         }
144         stop3:
145         Console.Write("输入B:");
146         try
147         {
148             base.inputIndexB = Convert.ToUInt32(Console.ReadLine());
149         }
150         catch
151         {
152             Console.WriteLine("输入错误");
153             goto stop3;
154         }
155         stop4:
156         Console.Write("输出:");
```

```
157         try
158         {
159             base.outputIndex = Convert.ToInt32(Console.ReadLine());
160         }
161         catch
162         {
163             Console.WriteLine("输入错误");
164             goto stop4;
165         }
166         Console.Write("可延迟?(y/n)");
167         switch (Console.ReadLine())
168         {
169             case "y":
170                 base.ifWaitCtrl = true;
171                 break;
172         }
173     }
174     public Nand(uint iA, uint iB, uint o, bool iWC)
175     {
176         base.ToolsNumber = Tools.Number;
177         Tools.Number++;
178         base.inputIndexA = iA;
179         base.inputIndexB = iB;
180         base.outputIndex = o;
181         base.waitForOutput = !Port.ports[base.inputIndexA] || !Port.ports
182             [base.inputIndexB];
183         base.ifWaitCtrl = iWC;
184     }
185     public void PreRun()
186     {
187         base.waitForOutput = !Port.ports[base.inputIndexA] || !Port.ports
188             [base.inputIndexB];
189     }
190     internal class Nor : Tools
191     {
192         public Nor()
193         {
194             stop2:
195             Console.Write("输入A:");
196             try
197             {
198                 base.inputIndexA = Convert.ToInt32(Console.ReadLine());
199             }
200             catch
201             {
202                 Console.WriteLine("输入错误");
203                 goto stop2;
204             }
205             stop3:
206             Console.Write("输入B:");
207             try
```

```

208         {
209             base.inputIndexB = Convert.ToUInt32(Console.ReadLine());
210         }
211         catch
212         {
213             Console.WriteLine("输入错误");
214             goto stop3;
215         }
216         stop4:
217         Console.Write("输出:");
218         try
219         {
220             base.outputIndex = Convert.ToUInt32(Console.ReadLine());
221         }
222         catch
223         {
224             Console.WriteLine("输入错误");
225             goto stop4;
226         }
227         Console.Write("可延迟?(y/n)");
228         switch (Console.ReadLine())
229         {
230             case "y":
231                 base.ifWaitCtrl = true;
232                 break;
233         }
234     }
235     public Nor(uint iA, uint iB, uint o, bool iWC)
236     {
237         base.ToolsNumber = Tools.Number;
238         Tools.Number++;
239         base.inputIndexA = iA;
240         base.inputIndexB = iB;
241         base.outputIndex = o;
242         base.waitForOutput = !Port.ports[base.inputIndexA] && !Port.ports [base.inputIndexB];
243         base.ifWaitCtrl = iWC;
244     }
245
246     public void PreRun()
247     {
248         base.waitForOutput = !Port.ports[base.inputIndexA] && !Port.ports [base.inputIndexB];
249     }
250 }
251 internal class Not : Tools
252 {
253     public Not()
254     {
255         stop2:
256         Console.Write("输入:");
257         try
258         {

```

```
259         base.inputIndexA = Convert.ToInt32(Console.ReadLine());
260     }
261     catch
262     {
263         Console.WriteLine("输入错误");
264         goto stop2;
265     }
266     stop4:
267     Console.Write("输出:");
268     try
269     {
270         base.outputIndex = Convert.ToInt32(Console.ReadLine());
271     }
272     catch
273     {
274         Console.WriteLine("输入错误");
275         goto stop4;
276     }
277     Console.Write("可延迟?(y/n)");
278     switch (Console.ReadLine())
279     {
280         case "y":
281             base.ifWaitCtrl = true;
282             break;
283     }
284 }
285 public Not(uint iA, uint o, bool iWC)
286 {
287     base.ToolsNumber = Tools.Number;
288     Tools.Number++;
289     base.inputIndexA = iA;
290     base.outputIndex = o;
291     base.waitForOutput = !Port.ports[base.inputIndexA];
292     base.ifWaitCtrl = iWC;
293 }
294
295 public void PreRun()
296 {
297     base.waitForOutput = !Port.ports[base.inputIndexA];
298 }
299 }
300 internal class Is : Tools
301 {
302     public Is()
303     {
304         stop2:
305         Console.Write("输入:");
306         try
307         {
308             base.inputIndexA = Convert.ToInt32(Console.ReadLine());
309         }
310         catch
311         {
```

```
312         Console.WriteLine("输入错误");
313         goto stop2;
314     }
315     stop4:
316     Console.Write("输出:");
317     try
318     {
319         base.outputIndex = Convert.ToInt32(Console.ReadLine());
320     }
321     catch
322     {
323         Console.WriteLine("输入错误");
324         goto stop4;
325     }
326     Console.Write("可延迟?(y/n)");
327     switch (Console.ReadLine())
328     {
329         case "y":
330             base.ifWaitCtrl = true;
331             break;
332     }
333 }
334 public Is(uint iA, uint o, bool iWC)
335 {
336     base.ToolsNumber = Tools.Number;
337     Tools.Number++;
338     base.inputIndexA = iA;
339     base.outputIndex = o;
340     base.waitForOutput = Port.ports[base.inputIndexA];
341     base.ifWaitCtrl = iWC;
342 }
343
344 public void PreRun()
345 {
346     base.waitForOutput = Port.ports[base.inputIndexA];
347 }
348
349 internal class Port
350 {
351     public static bool[] ports = new bool[0x2710];
352 }
353 internal class Tools
354 {
355     public uint inputIndexA;
356     public uint inputIndexB;
357     public static uint Number = 0;
358     public uint outputIndex;
359     public uint ToolsNumber;
360     public bool waitForOutput;
361     public bool ifWaitCtrl = false;
362     public void Run()
363     {
364         if(this.ifWaitCtrl==true)
```

```

365         Console.WriteLine("MKQ");
366
367         Port.ports[this.outputIndex] = this.waitForOutput;
368
369     }
370 }
371 }
372 namespace Re_NONA_
373 {
374     using Re_NONA_.Elecment;
375     using System.Threading;
376     using System;
377     internal class MKQ
378     {
379
380     }
381     internal class Ctrl
382     {
383         public static void Help()
384         {
385             // "本游戏由端口替代导线,允许玩家在端口之间创建逻辑门\n" +
386             // "目前支持的逻辑门有:\n" +
387             // "->And:仅当两个输入端同时有电时才输出电流\n" +
388             // "->Or:只要有一个输入端有电便输出电流\n" +
389             // "->Nand:仅当两个输入端口都有电时才不输出电流\n" +
390             // "->Nor:仅当两个输入端口都没电时才输出电流\n" +
391             // "->Not:输入端口与输出端口状态相反\n\n" +
392             // "目前的版本不支持会造成矛盾的电路所带来的快速变化电流(端口除非改变,通
393             // 电状态应该是一定的)\n" +
394             // "如果输入错误会导致程序崩溃而非重新输入\n" +
395             // "true:有电false:没电\n" +
396             // "支持的指令如下:\n" +
397             // "->new:创建新元件\n" +
398             // "->check:检查元件状态\n" +
399             // "->run:运行元件\n" +
400             // "->ports:显示端口状态(待改进)\n" +
401             Console.WriteLine();
402             Console.WriteLine("*****欢迎使用Re-NONA-0.3.0*****");
403             Console.WriteLine(
404                 "Re-NONA-是一款逻辑门电路创建游戏,\n" +
405                 "在游戏中,玩家可以了解到计算机的原理以及亲身体验发展过程");
406             Console.WriteLine(
407                 "元件说明:元件是建立在端口之间的能对电路变化产生反应的器件\n" +
408                 "->And:仅当两个输入端同时有电时才输出电流\n" +
409                 "->Or:只要有一个输入端有电便输出电流\n" +
410                 "->Nand:仅当两个输入端口都有电时才不输出电流\n" +
411                 "->Nor:仅当两个输入端口都没电时才输出电流\n" +
412                 "->Not:输入端口与输出端口状态相反\n" +
413                 "->Is:输入端口与输出端口状态相同\n ");
414             Console.WriteLine(
415                 "端口说明:端口是连接在元件之间传递电路变化的器件\n" +
416                 "可以认为一个端口就是一根导线");
417             Console.WriteLine("功能介绍:");
418             Console.WriteLine(

```



```
417         "->New:在端口之间创建新的逻辑门元件\n" +
418         "->News(消歧义):一次性创建多个元件\n" +
419         "->Run:运行电路\n" +
420         "->AutoRun:自动运行,暂无法退出\n" +
421         "");
422     }
423     public static void Set()
424     {
425         bool ifOver = false;
426         Console.WriteLine("设置结束请输入stop");
427         while(!ifOver)
428         {
429             byte portNum = 0;
430             stop1:
431             Console.Write("端口号:");
432             try
433             {
434                 portNum = Convert.ToByte(Console.ReadLine());
435             }
436             catch
437             {
438                 Console.WriteLine("输入错误");
439                 goto stop1;
440             }
441             Console.WriteLine("目前状态:[{0}]{1}",portNum,Port.ports
442                 [portNum]?"1":"0");
443             Console.WriteLine("是否更改(y/n)");
444             switch (Console.ReadLine())
445             {
446                 case "y":
447                     Port.ports[portNum] = !Port.ports[portNum];
448                     break;
449                 default:
450                     break;
451             }
452             if (Console.ReadLine() == "stop")
453             {
454                 ifOver = true;
455             }
456         }
457     }
458 }
459 public static void New()
460 {
461     Console.WriteLine("创建类型待输入...(and/nand/or/nor/not/is)");
462     switch (Console.ReadLine())
463     {
464         case "and":
465             ToolsData.tools[Tools.Number] = new And();
466             break;
467         case "nand":
468             ToolsData.tools[Tools.Number] = new Nand();
```

```

469         break;
470     case "or":
471         ToolsData.tools[Tools.Number] = new Or();
472         break;
473     case "nor":
474         ToolsData.tools[Tools.Number] = new Nor();
475         break;
476     case "not":
477         ToolsData.tools[Tools.Number] = new Not();
478         break;
479     case "is":
480         ToolsData.tools[Tools.Number] = new Is();
481         break;
482     default:
483         Console.WriteLine("未定义之指令");
484         break;
485     }
486 }
487 public static void News()
488 {
489     Console.WriteLine("批量创建类型待输入...(and/nand/or/nor/not/is)");
490     switch (Console.ReadLine())
491     {
492     case "and":
493         stop16:
494         try
495         {
496             Console.Write("创建个数:");
497             uint num = Convert.ToUInt32(Console.ReadLine());
498             Console.Write("输入A起始:");
499             uint iA = Convert.ToUInt32(Console.ReadLine());
500             Console.Write("间隔:");
501             uint num3 = Convert.ToUInt32(Console.ReadLine());
502             Console.Write("输入B起始:");
503             uint iB = Convert.ToUInt32(Console.ReadLine());
504             Console.Write("间隔:");
505             uint num5 = Convert.ToUInt32(Console.ReadLine());
506             Console.Write("输出起始:");
507             uint o = Convert.ToUInt32(Console.ReadLine());
508             Console.Write("间隔:");
509             uint num7 = Convert.ToUInt32(Console.ReadLine());
510             for (uint i = 0; i < num; i++)
511             {
512                 ToolsData.tools[Tools.Number] = new And(iA, iB,
513 o, false);
514                 iA += num3;
515                 iB += num5;
516                 o += num7;
517             }
518             break;
519         }
520         catch
521         {

```

```
521         Console.WriteLine("输入错误");
522         goto stop16;
523     }
524     case "nand":
525         stop17:
526         try
527         {
528             Console.Write("创建个数:");
529             uint num8 = Convert.ToUInt32(Console.ReadLine());
530             Console.Write("输入A起始:");
531             uint num9 = Convert.ToUInt32(Console.ReadLine());
532             Console.Write("间隔");
533             uint num10 = Convert.ToUInt32(Console.ReadLine());
534             Console.Write("输入B起始:");
535             uint num11 = Convert.ToUInt32(Console.ReadLine());
536             Console.Write("间隔");
537             uint num12 = Convert.ToUInt32(Console.ReadLine());
538             Console.Write("输出起始:");
539             uint num13 = Convert.ToUInt32(Console.ReadLine());
540             Console.Write("间隔");
541             uint num14 = Convert.ToUInt32(Console.ReadLine());
542             for (int j = 0; j < num8; j++)
543             {
544                 ToolsData.tools[Tools.Number] = new Nand(num9, num11, num13, false);
545                 num9 += num10;
546                 num11 += num12;
547                 num13 += num14;
548             }
549             break;
550         }
551         catch
552         {
553             Console.WriteLine("输入错误");
554             goto stop17;
555         }
556     case "or":
557         stop18:
558         try
559         {
560             Console.Write("创建个数:");
561             uint num15 = Convert.ToUInt32(Console.ReadLine());
562             Console.Write("输入A起始:");
563             uint num16 = Convert.ToUInt32(Console.ReadLine());
564             Console.Write("间隔");
565             uint num17 = Convert.ToUInt32(Console.ReadLine());
566             Console.Write("输入B起始:");
567             uint num18 = Convert.ToUInt32(Console.ReadLine());
568             Console.Write("间隔");
569             uint num19 = Convert.ToUInt32(Console.ReadLine());
570             Console.Write("输出起始:");
571             uint num20 = Convert.ToUInt32(Console.ReadLine());
572             Console.Write("间隔");
```

```
573         uint num21 = Convert.ToUInt32(Console.ReadLine());
574         for (int k = 0; k < num15; k++)
575         {
576             ToolsData.tools[Tools.Number] = new Or(num16, num18, num20, false);
577             num16 += num17;
578             num18 += num19;
579             num20 += num21;
580         }
581         break;
582     }
583     catch
584     {
585         Console.WriteLine("输入错误");
586         goto stop18;
587     }
588     case "nor":
589         stop19:
590         try
591         {
592             Console.Write("创建个数:");
593             uint num22 = Convert.ToUInt32(Console.ReadLine());
594             Console.Write("输入A起始:");
595             uint num23 = Convert.ToUInt32(Console.ReadLine());
596             Console.Write("间隔");
597             uint num24 = Convert.ToUInt32(Console.ReadLine());
598             Console.Write("输入B起始:");
599             uint num25 = Convert.ToUInt32(Console.ReadLine());
600             Console.Write("间隔");
601             uint num26 = Convert.ToUInt32(Console.ReadLine());
602             Console.Write("输出起始:");
603             uint num27 = Convert.ToUInt32(Console.ReadLine());
604             Console.Write("间隔");
605             uint num28 = Convert.ToUInt32(Console.ReadLine());
606             for (int m = 0; m < num22; m++)
607             {
608                 ToolsData.tools[Tools.Number] = new Nor(num23, num25, num27, false);
609                 num23 += num24;
610                 num25 += num26;
611                 num27 += num28;
612             }
613             break;
614         }
615         catch
616         {
617             Console.WriteLine("输入错误");
618             goto stop19;
619         }
620     case "not":
621         stop20:
622         try
623         {
```

```
624         Console.WriteLine("创建个数:");
625         uint num29 = Convert.ToUInt32(Console.ReadLine());
626         Console.WriteLine("输入起始:");
627         uint num30 = Convert.ToUInt32(Console.ReadLine());
628         Console.WriteLine("间隔");
629         uint num31 = Convert.ToUInt32(Console.ReadLine());
630         Console.WriteLine("输出起始:");
631         uint num32 = Convert.ToUInt32(Console.ReadLine());
632         Console.WriteLine("间隔");
633         uint num33 = Convert.ToUInt32(Console.ReadLine());
634         for (int n = 0; n < num29; n++)
635         {
636             ToolsData.tools[Tools.Number] = new Not(num30,
num32, false);
637             num30 += num31;
638             num32 += num33;
639         }
640         break;
641     }
642     catch
643     {
644         Console.WriteLine("输入错误");
645         goto stop20;
646     }
647     case "is":
648     stop33:
649     try
650     {
651         Console.WriteLine("创建个数:");
652         uint num29 = Convert.ToUInt32(Console.ReadLine());
653         Console.WriteLine("输入起始:");
654         uint num30 = Convert.ToUInt32(Console.ReadLine());
655         Console.WriteLine("间隔");
656         uint num31 = Convert.ToUInt32(Console.ReadLine());
657         Console.WriteLine("输出起始:");
658         uint num32 = Convert.ToUInt32(Console.ReadLine());
659         Console.WriteLine("间隔");
660         uint num33 = Convert.ToUInt32(Console.ReadLine());
661         for (int n = 0; n < num29; n++)
662         {
663             ToolsData.tools[Tools.Number] = new Is(num30,
num32, false);
664             num30 += num31;
665             num32 += num33;
666         }
667         break;
668     }
669     catch
670     {
671         Console.WriteLine("输入错误");
672         goto stop33;
673     }
674     default:
```

```
675         Console.WriteLine("未定义之指令");
676         break;
677     }
678 }
679 public static void AutoRun(uint startPort, uint endPort)
680 {
681     bool ifOver = false;
682     int slpTime = 1;
683     stop21:
684     Console.WriteLine("主时钟刷新间隔待输入...(ms)");
685     try
686     {
687         slpTime = Convert.ToInt32(Console.ReadLine());
688     }
689     catch
690     {
691         Console.WriteLine("输入错误");
692         goto stop21;
693     }
694     Console.WriteLine("任意键启动...");
695     Console.ReadLine();
696     for (uint j = startPort; j <= endPort; j++)
697     {
698         Console.Write("[{0}]{1}", j, Port.ports[j] ? "1" : "0");
699         Console.WriteLine("\n");
700         Console.ReadLine();
701     }
702     Thread.Sleep(slpTime);
703     while (!ifOver)
704     {
705         TestRun();
706         for (uint j = startPort; j <= endPort; j++)
707         {
708             Console.Write("[{0}]{1}", j, Port.ports[j] ? "1" : "0");
709             Console.WriteLine("\n");
710         }
711         Thread.Sleep(slpTime);
712     }
713 }
714 public static void Run(uint startPort, uint endPort)
715 {
716     bool isOver = false;
717     string input = null;
718     Console.WriteLine("stop 指令用于退出...");
719     for (uint j = startPort; j <= endPort; j++)
720     {
721         Console.Write("[{0}]{1}", j, Port.ports[j] ? "1" : "0");
722     }
723     Console.WriteLine("\n");
724     while (!isOver)
725     {
726         TestRun();
727     }
```

```
728
729     for (uint j = startPort; j <= endPort; j++)
730     {
731         Console.Write("[{0}]{1}", j, Port.ports[j]?"1":"0");
732         Console.Write("\n");
733     }
734     input = Console.ReadLine();
735     if (input == "stop")
736     {
737         isOver = true;
738     }
739
740 }
741 }
742 public static void TestRun()
743 {
744     for (int ii = 0; ii < Tools.Number + 1; ii++)
745     {
746         if (ToolsData.tools[ii].ifWaitCtrl == true)
747         {
748             Console.WriteLine("MQW");
749             PreRun(ii);
750             ToolsData.tools[ii].Run();
751         }
752     }
753     for (int j = 0; j < 101; j++)
754     {
755
756         for (int i = 0; i <= Tools.Number; i++)
757         {
758
759             if (ToolsData.tools[i].ifWaitCtrl == false)
760             {
761                 PreRun(i);
762                 ToolsData.tools[i].Run();
763             }
764
765         }
766
767     }
768 }
769
770 }
771
772
773 }
774
775 public static void PreRun(int i)
776 {
777     if (ToolsData.tools[i] is And)
778     {
779         ((And)ToolsData.tools[i]).PreRun();
780     }
```

[illegible]



```
824     {
825         Console.WriteLine("指令待输入...(new/news/run/autorun/help/set/author/logo)");
826         switch (Console.ReadLine())
827         {
828             case "new":
829                 Ctrl.New();
830                 break;
831
832             case "news":
833                 Ctrl.News();
834                 break;
835
836             case "run":
837                 stop22:
838                 try
839                 {
840                     Console.WriteLine("运行时显示端口待输入...");
841                     Console.Write("起始端口:");
842                     uint startPort = Convert.ToUInt32(Console.ReadLine());
843                     Console.Write("终止端口:");
844                     uint endPort = Convert.ToUInt32(Console.ReadLine());
845                     Ctrl.Run(startPort, endPort);
846                     break;
847                 }
848                 catch
849                 {
850                     Console.WriteLine("输入错误");
851                     goto stop22;
852                 }
853             case "autorun":
854                 stop23:
855                 try
856                 {
857                     Console.WriteLine("运行时显示端口待输入...");
858                     Console.Write("起始端口:");
859                     uint startPort = Convert.ToUInt32(Console.ReadLine());
860                     Console.Write("终止端口:");
861                     uint endPort = Convert.ToUInt32(Console.ReadLine());
862                     Ctrl.AutoRun(startPort, endPort);
863                     break;
864                 }
865                 catch
866                 {
867                     Console.WriteLine("输入错误");
868                     goto stop23;
869                 }
870             case "help":
871                 Ctrl.Help();
```

[illegible]

```
893         default:
894             Console.WriteLine("未定义之指令");
895             break;
896
897
898     }
899 }
900 }
901 }
902
903 }
904
905
```