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Issue 3
30/11/06

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1 Hello again

This is the third issue of CoreExplorer. Our goal is to promote the game of corewar among new players and those interested in either learning the basics or some snippets that would allow their warriors to score better on 94b hill and possibly become competitive enough to threaten the pro hills - 94nop, 94draft, etc. We begin with basic concepts, but, in time, there will also be more advanced topics discussed in articles in this newsletter. We are looking forward to hearing your impressions and comments about what is presented here. Also, you are free to join us and write some articles of your own. In the end, We'd like to apologize for the delay between issue no #2 and issue no #3, it was due to us having a lot of other obligations to deal with. That left aside, we'll try posting articles to rec.games.corewar on regular bases. Regards,

Core Explorer Staff

2 Imp basics

An *imp*. That is probably the first thing you have been fortunate to stumble upon when opening a corewar tutorial. The simplest and shortest warrior, apart from the utterly useless *jmp 0, 0*. And yet, it is merely a representative of a much larger group. So, what are imps? Some of you certainly already know the answer to that question. If so, you may choose either to skip the next few passages, or to refresh your memory, if you have any doubts about the way imps, imp rings, imp spirals, silk-imps work. Of course, we will only provide you with some basics at this point. However, we could expand the topic into the next couple of issues, as well, if you display the desire to read more about it.

Let's start with some definitions first. We can define a set of *imp-instructions*. Those are the instructions of one of the following forms:

```
mov.i $0, $istep
mov.i *0, istep
mov.i #x, istep
mov.i #istep, *0
```

where

```
GCD(istep, CORESIZE) = 1
```

and GCD denotes greatest common divisor.

3 Down The Core And More

November 15th 2006 was an ordinary day, just another boring day in the week filled with work. That is, if you're not a corewar fan. The new tournament began. It is hosted by some lazy guy who never gets anything done in time. Oh, wait. That's me.

Eighteen people decided to take part and try their luck in this tournament, fighting fearlessly and tirelessly for 16 weeks, bending time and opposing reason and common sense, only to be called the winner of yet another pointless tournament in a game most people never heard of. But that's beside the point. The challenge was there. The rules for the first two rounds were designed to provide the players with the usual entertaining stuff inherent to the game. However, the goal was primarily to let the players use these rounds as a slight warm-up for the rest of the tournament, especially since most of them hadn't been submitting warriors to the hills for quite some time. Nevertheless, the points would be awarded here, as well, so some turbulence was to be expected along the way.

Core Explorer will, of course, provide you with the full coverage of this event. You will be able to see the rules and results of each round, and also some of the code that was posted by the participants. Interested? Keep reading!

3.1 Round 1: "IMPrisonedIMPs" rules

```
pspace: allowed
coresize: 9240
maxlength: 150
mindist: 230
maxproc: 10000
cycles: 100000
read/write limits: none
rounds per matchup: 600
tournament type: round robin
warriors per player: 1
```

If you take a closer look at the size of the core, you will surely notice the reason for the name of this round to be as it is. Making imp-rings, imp-spirals, and silk-imps was much more difficult than in standard core size, because it was impossible to make 3,4,5,6,7,8,9,10,11 - pointimps. Why? Well, because these numbers all either divide the coresize or contain a prime factor that is a divisor of the coresize. Pspace was allowed, so that more intelligent warriors are allowed to the stage. The expected absence ofimps from the majority of the warriors could make a difference in planning of the strategy to be utilized in the submitted warriors. Imps are tough opponents, and if you don't have to look out for them - that gives you more freedom in your coding, allowing smaller and faster routines.