Krikkit Wars

Corewar Championship

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Summary: *This document describes how to participate in the Corewar Championship*

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Chapter I

Foreword

 The planet Krikkit is (at the beginning of the novel Life, the
Universe and Everything) located in a dust cloud composed chiefly of the
disintegrated remains of the enormous spaceborne computer Hactar. Hactar was
originally created by the Silastic Armorfiends of Striterax to design the
Ultimate Weapon. Hactar produced a very, very small bomb that, when activated,
would connect every star to every other star, cause them to all go supernova
simultaneously and, thus, destroy the universe. The bomb proved dysfunctional
because Hactar had designed it with a tiny flaw, reasoning that no consequence
could be worse than that of setting the bomb off. The Silastic Armorfiends
disagreed and destroyed Hactar.

Due to the dust cloud, the sky above Krikkit was completely black, and thus the
people of Krikkit led insular lives and never realised the existence of the
Universe. With the population thus prepared, Hactar, disintegrated but still
functional, built and crashed a model spaceship onto Krikkit in order to
introduce its inhabitants to the concept of the Universe. Secretly guided by
Hactar, the Krikkiters built their first spaceship, Krikkit One, penetrated the
dust cloud, and surveyed the Universe before them. Unbeknownst to the
Krikkiters, Hactar had been subliminally conditioning their minds to the point
where they could not accept a Universe into their world view with the intention
of putting them into a similar mindset to that of the Silastic Armorfiends.
Sooner or later, they would require an Ultimate Weapon, and this would allow
Hactar to finally complete his purpose, something he had felt considerably
guilty about not doing before. Upon first witnessing the glory and splendor of
the Universe, they casually, whimsically, decided to destroy it, remarking,
"It'll have to go." Aided again by the mind of Hactar, the Krikkiters built an
incredible battlefleet and waged a massive war against the entire Universe. The
Galaxy, then in an era of relative peace, was unprepared, and spent the next
2,000 years fighting the Krikkiters in war that resulted in about two
"grillion" casualties.

When Krikkit was eventually defeated, Judiciary Pag sentenced Krikkit and its
sun to be sealed in a Slo-Time envelope within which time would pass almost
infinitely slowly until the end of the Universe, thus serving the dual purpose
of protecting the Universe from Krikkit, and allowing the Krikkiters to enjoy a

solitary existence in the twilight of Creation. Light would be deflected around
the envelope, making it invisible and impenetrable. The Wikkit Gate, the key
that would unlock the envelope, was disintegrated into time, and could
therefore not be used to free the planet from the envelope ahead of time.

However, a Krikkit warship carrying deadly white robots of the kind used in the
war escaped before the envelope was sealed, and, within a brief ten billion
years, managed to reassemble the Wikkit Gate. The Gate was composed of the
Steel Pillar of Strength and Power (Marvin the Paranoid Android's artificial
leg), the Golden Bail of Prosperity (The Heart of Gold, the small golden box
that makes the Infinite Improbability Drive function), the Perspex Pillar of
Science and Reason (The Argabuthon Scepter of Justice; "Plastic Pillar" in the
American version), the Silver Bail of Peace (The Rory Award For The Most
Gratuitous Use Of The Word "Fuck" In A Serious Screenplay-The Rory Award for
the Most Gratuitous Use of the Word "Belgium" in a Serious Screenplay in the
American version), and the Wooden Pillar of Nature and Spirituality (The
reconstituted ashes of the stump signifying the death of English cricket: see
The Ashes).

Chapter II

General Instructions

- To participate, you must make a champion(only one!) at the root of the Git repository associated with the championship project. It must be an .s file. If you make more than one, only the first one found by `ls` will be used.

- The virtual machine and assembler that will be used are located in the provided tarball with resources. This virtual machine will be used for all championship matches.

  > ⚠ The reference virtual machine is not necessarily always logical, and its implementation follows some technical choices that can be questionable. However, as you have access to it now, and you can study its behavior at leisure, you have no excuse if your champion does not work well on it...

- The virtual machine offers the following two ways of viewing the game:
  - With the `-n` option, it produces an output via `ncurses` to the terminal

  - Without the `-n` option, it produces a log of events. Its verbosity is adjustable with the `-v` option

- The reference programs are set up as follows:

```
#define IND_SIZE              2
#define REG_SIZE              4
#define DIR_SIZE              REG_SIZE

#define MAX_ARGS_NUMBER       4
#define MAX_PLAYERS           4
#define MEM_SIZE              (4*1024)
#define IDX_MOD               (MEM_SIZE / 8)
#define CHAMP_MAX_SIZE        (MEM_SIZE / 6)

#define COMMENT_CHAR          '#'
#define LABEL_CHAR            ':'
#define DIRECT_CHAR           '%'
#define SEPARATOR_CHAR        ','

#define LABEL_CHARS           "abcdefghijklmnopqrstuvwxyz_0123456789"

#define NAME_CMD_STRING       ".name"
#define COMMENT_CMD_STRING     ".comment"

#define REG_NUMBER            16

#define CYCLE_TO_DIE          1536
#define CYCLE_DELTA           50
#define NBR_LIVE              21
#define MAX_CHECKS            10

#define PROG_NAME_LENGTH      128
#define COMMENT_LENGTH        2048
```

Chapter III

Important notes

- Your champions will be made public after the end of the championship, to provide examples for future contenders. If you really do not want to publish your champion, let us know.

- As a consequence of the previous point: past years' champions are available for your amusement in the same folder as the VM and the reference assembler.

- This is an event planned, first of all, to AMUSE you. As such, there is no coding standard to respect, no grade, and most importantly, no corrections: the winners will be determined during a bloody fight live in the amphitheater. Your reward will be fame, and potentially goodies, kittens, and alcohol. And a cool T-shirt if you reach the finals.

- Victory is, first of all, a secret, as Corewar is basically an advanced game of Rock-Paper-Scissors. In order not to force you to reveal your champion before the time comes, if an intermediate fight takes place, the state of memory during the game will NOT be broadcast, in order to preserve the secrecy of the code of your champions (In other words, the VM will be launched with the option `-stealth`).

- Fights will be 1-on-1, the order of champions will be random, and player numbers may not be 1 or 2.

- Intermediate combat, if it takes place, will take the form of a round-robin (your champion will fight every other champion).

- Eliminations, if they take place, will also take the form of a round-robin, and the best will proceed into the final fight.

- The final fight will take the form of a direct elimination tournament with random matches. Upon the first defeat, your champion will be eliminated.

- Your champions will be compiled with the reference assembler, and they will mainly be compiled by moulinette. If your champion does not compile, he will be disqualified. If you put your champion in a subdirectory, or the file does not end with an .s, or any other oddity, the result will be the same!

- The reference virtual machine becomes quite slow when the number of processes reaches millions. However, it should not be a problem if you make a serious champion. Why? Because the only way to reach that number of processes is to pit two champions that don't attack, and instead just `fork` in a loop, which is very uninteresting, and no champion that simple will hold for more than one round at the championship. If you do something like that, your champion will be crushed. It would be a shame.

- If you reach the quarter-finals, you may publicly ridicule the champions of Bocal.

- The dates of the various events of this championship will be specified by email.

- You can ask your questions on the forum, on slack, etc...

- All your questions are welcome, even stupid questions. Do not hesitate, we are here to have fun, not to fight.