

make, gcc, diff, patch

MO801

Make

- What is?
- How to use?
- Examples
- Recursive make
- Makefile
- -n
- -j

Makefile

- Specify the dependency rules
- Tricky syntax
 - All command lines MUST start with TAB character
- Two ways of defining variables → = and :=
- Shell script like commands
- Default action
- What about all, run, clean, distclean, ...


Simple example

```
hello: hello.c hello.h
      gcc hello.c -o hello

ola:  ola.c ola.h
      gcc ola.c -o ola

%.o: %.c
      $(CC) -c -o $@ $< $(CFLAGS)

all:  hello ola
```



What is the impact
of this line here?

Other example

```
export SYSTEMC := /home/staff/rodolfo/mc723/systemc
PLATFORM := helloworld_mips.01
include platforms/$(PLATFORM)/defs.arp
export HOST_OS:= linux64
export CFLAGS:=-g
export CC:=g++
export ARP:=$(PWD)
all:
    cd $(ARP)
    echo Making Platform $(PLATFORM)
    cd platforms/$(PLATFORM); $(MAKE)
run: all
    cd $(ARP)
    cd platforms/$(PLATFORM); $(MAKE) run
```

gcc

- GNU compiler collection
 - Lots of compilers into one frontend!
- What happens when you execute the command?

```
gcc hello.c -o hello
```

- Use

```
gcc -v hello.c -o hello
```



diff

Original (orig/hello.c)

```
#include <stdio.h>

main()
{
    puts("hello world");
}
```

New version (new/hello.c)

```
#include <stdio.h>

main()
{
    puts("alo mundo");
}
```

```
diff -u orig/hello.c new/hello.c > hello.patch
```

```
--- orig/hello.c          2014-09-23 09:46:29.000000000 -0300
+++ new/hello.c          2014-09-23 09:46:43.000000000 -0300
@@ -3,6 +3,6 @@
 main()
 {
- puts("hello world");
+ puts("alo mundo");

 }
```


patch

```
cd orig  
patch -p1 < ../hello.patch
```

```
#include <stdio.h>  
  
main()  
{  
  
    puts("alo mundo");  
  
}
```

diff / patch

- Works in directory structure with all files
`diff -rupN original new > patchfile.patch`
- Can be extracted directly from version control systems
 - git, svn, ...
- By the way, do you know any version control tool?
 - git format-patch ...

gnuplot

- Plot graphics
- I recommend csv files
- Examples:
 - `git@gitlab.lsc.ic.unicamp.br:rodolfo/gnuplot-examples.git`
 - `http://gnuplot.sourceforge.net/demo/`

Parsec Hands On

- Use the patch
 - parsec-3-20140923.patch
 - Parsec and Splash2x should work
- Look for
 - Input sizes (-i)
 - Compiler (-c)
 - Extra compile options (OpenMP)
 - Cleanup
 - Submit option (-s)