```
MG5_aMC>generate p p > mur- mur+
INFO: Checking for minimal orders which gives processes.
INFO: Please specify coupling orders to bypass this step.
INFO: Trying process: g g > mur- mur+ WEIGHTED<=2 @1
INFO: Trying process: u u~ > mur- mur+ WEIGHTED<=2 @1
INFO: Process has 2 diagrams
INFO: Trying process: u c~ > mur- mur+ WEIGHTED<=2 @1
INFO: Trying process: c u~ > mur- mur+ WEIGHTED<=2 @1
INFO: Trying process: c c~ > mur- mur+ WEIGHTED<=2 @1
INFO: Process has 2 diagrams
INFO: Trying process: d d~ > mur- mur+ WEIGHTED<=2 @1
INFO: Process has 2 diagrams
INFO: Trying process: d s~ > mur- mur+ WEIGHTED<=2 @1
INFO: Trying process: s d~ > mur- mur+ WEIGHTED<=2 @1
INFO: Trying process: s s~ > mur- mur+ WEIGHTED<=2 @1
INFO: Process has 2 diagrams
INFO: Process u~ u > mur- mur+ added to mirror process u u~ > mur-
mur+
INFO: Process c~ c > mur- mur+ added to mirror process c c~ > mur-
mur+
INFO: Process d~ d > mur- mur+ added to mirror process d d~ > mur-
mur+
INFO: Process s~ s > mur- mur+ added to mirror process s s~ > mur-
mur+
4 processes with 8 diagrams generated in 0.053 s
Total: 4 processes with 8 diagrams
MG5_aMC>add process p p > mul- mul+ /q
INFO: Checking for minimal orders which gives processes.
INFO: Please specify coupling orders to bypass this step.
INFO: Trying process: g g > mul- mul+ WEIGHTED<=2 / u c d s u c d s t
b t b @2
INFO: Trying process: u u~ > mul- mul+ WEIGHTED<=2 / u c d s u c d s t
b t b @2
INFO: Process has 2 diagrams
INFO: Trying process: u c~ > mul- mul+ WEIGHTED<=2 / u c d s u c d s t
b t b @2
INFO: Trying process: c u~ > mul- mul+ WEIGHTED<=2 / u c d s u c d s t
b t b @2
INFO: Trying process: c c~ > mul- mul+ WEIGHTED<=2 / u c d s u c d s t
b t b @2
INFO: Process has 2 diagrams
INFO: Trying process: d d~ > mul- mul+ WEIGHTED<=2 / u c d s u c d s t
b t b @2
INFO: Process has 2 diagrams
INFO: Trying process: d s~ > mul- mul+ WEIGHTED<=2 / u c d s u c d s t
b t b @2
INFO: Trying process: s d~ > mul- mul+ WEIGHTED<=2 / u c d s u c d s t
b t b @2
INFO: Trying process: s s~ > mul- mul+ WEIGHTED<=2 / u c d s u c d s t
b t b @2
```

```
INFO: Process has 2 diagrams
INFO: Process u~ u > mul- mul+ added to mirror process u u~ > mul-
mul+
INFO: Process c~ c > mul- mul+ added to mirror process c c~ > mul-
mul+
INFO: Process d~ d > mul- mul+ added to mirror process d d~ > mul-
mul+
INFO: Process s~ s > mul- mul+ added to mirror process s s~ > mul-
mul+
4 processes with 8 diagrams generated in 0.055 s
Total: 8 processes with 16 diagrams
MG5_aMC>display processes
Process: u u~ > mur- mur+ WEIGHTED<=2 @1
Process: c c~ > mur- mur+ WEIGHTED<=2 @1
Process: d d~ > mur- mur+ WEIGHTED<=2 @1
Process: s s~ > mur- mur+ WEIGHTED<=2 @1
Process: u u~ > mul- mul+ WEIGHTED<=2 / u c d s u c d s t b t b @2
Process: c c~ > mul- mul+ WEIGHTED<=2 / u c d s u c d s t b t b @2
Process: d d~ > mul- mul+ WEIGHTED<=2 / u c d s u c d s t b t b @2
Process: s s~ > mul- mul+ WEIGHTED<=2 / u c d s u c d s t b t b @2
MG5_aMC>output test
INFO: initialize a new directory: test
INFO: remove old information in test
INFO: Organizing processes into subprocess groups
INFO: Generating Helas calls for process: u u~ > mur- mur+ WEIGHTED<=2
@1
INFO: Processing color information for process: u u~ > mur- mur+ @1
INFO: Combined process c c~ > mur- mur+ WEIGHTED<=2 @1 with process u
u~ > mur- mur+ WEIGHTED<=2 @1
INFO: Generating Helas calls for process: d d~ > mur- mur+ WEIGHTED<=2
@1
INFO: Reusing existing color information for process: d d~ > mur- mur+
@1
INFO: Combined process s s~ > mur- mur+ WEIGHTED<=2 @1 with process d
d~ > mur- mur+ WEIGHTED<=2 @1
INFO: Generating Helas calls for process: u u~ > mul- mul+
WEIGHTED<=2 / u c d s u c d s t b t b @2
INFO: Processing color information for process: u u~ > mul- mul+ / u c
d s u c d s t b t b @2
INFO: Combined process c c~ > mul- mul+ WEIGHTED<=2 / u c d s u c d s
t b t b @2 with process u u~ > mul- mul+ WEIGHTED<=2 / u c d s u c d s
t b t b @2
INFO: Generating Helas calls for process: d d~ > mul- mul+
WEIGHTED<=2 / u c d s u c d s t b t b @2
INFO: Reusing existing color information for process: d d~ > mul-
mul+ / u c d s u c d s t b t b @2
INFO: Combined process s s~ > mul- mul+ WEIGHTED<=2 / u c d s u c d s
t b t b @2 with process d d~ > mul- mul+ WEIGHTED<=2 / u c d s u c d s
t b t b @2
INFO: Creating files in directory P1_qq_murmmurp
```

```
INFO: Generating Feynman diagrams for Process: u u~ > mur- mur+
WEIGHTED<=2 @1
INFO: Generating Feynman diagrams for Process: d d~ > mur- mur+
WEIGHTED<=2 @1
INFO: Finding symmetric diagrams for subprocess group qq_murmmurp
INFO: Creating files in directory P2_qq_mulmmulp
INFO: Generating Feynman diagrams for Process: u u~ > mul- mul+
WEIGHTED<=2 / u c d s u c d s t b t b @2
INFO: Generating Feynman diagrams for Process: d d~ > mul- mul+
WEIGHTED<=2 / u c d s u c d s t b t b @2
INFO: Finding symmetric diagrams for subprocess group qq_mulmmulp
Generated helas calls for 4 subprocesses (8 diagrams) in 0.005 s
Wrote files for 32 helas calls in 0.062 s
ALOHA: aloha starts to compute helicity amplitudes
aloha starts to compute helicity amplitudes
aloha starts to compute helicity amplitudes
aloha starts to compute helicity amplitudes
aloha starts to compute helicity amplitudes
ALOHA: aloha creates 20 routines in  0.195 s
aloha creates 20 routines in  0.195 s
aloha creates 20 routines in  0.195 s
aloha creates 20 routines in  0.195 s
aloha creates 20 routines in  0.195 s
save configuration file to /Users/alaa/Downloads/MG5_aMC_v3_5_0/test/
Cards/me5_configuration.txt
INFO: Use Fortran compiler gfortran
INFO: Use c++ compiler clang
INFO: Generate web pages
INFO: Generating MadAnalysis5 default cards tailored to this process
Output to directory /Users/alaa/Downloads/MG5_aMC_v3_5_0/test done.
Type "launch" to generate events from this process, or see
/Users/alaa/Downloads/MG5_aMC_v3_5_0/test/README
Run "open index.html" to see more information about this process.
MG5_aMC>display processes
Process: u u~ > mur- mur+ WEIGHTED<=2 @1
Process: d d~ > mur- mur+ WEIGHTED<=2 @1
Process: u u~ > mul- mul+ WEIGHTED<=2 / u c d s u c d s t b t b @2
Process: d d~ > mul- mul+ WEIGHTED<=2 / u c d s u c d s t b t b @2
```