

pypl Subset 0 Examples

[examples/0/hello_world.py](https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/0/hello_world.py) (https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/0/hello_world.py) [examples/0/hello_world.pl](https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/0/hello_world.pl) (https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/0/hello_world.pl)

```
#!/usr/bin/python3
print("hello world")
```

```
#!/usr/bin/perl -w
print "hello world\n";
```

pypl Subset 1 Examples

[examples/1/answer3.py](https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/1/answer3.py) (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/1/answer3.py>) [examples/1/answer3.pl](https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/1/answer3.pl) (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/1/answer3.pl>)

```
#!/usr/bin/python3
factor0 = 6
factor1 = 7
answer = factor0 * factor1
print(answer)
```

```
#!/usr/bin/perl -w
$factor0 = 6;
$factor1 = 7;
$answer = $factor0 * $factor1;
print "$answer\n";
```

[examples/1/answer2.py](https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/1/answer2.py) (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/1/answer2.py>) [examples/1/answer2.pl](https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/1/answer2.pl) (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/1/answer2.pl>)

```
#!/usr/bin/python3
answer = 1 + 7 * 7 - 8
print(answer)
```

```
#!/usr/bin/perl -w
$answer = 1 + 7 * 7 - 8;
print "$answer\n";
```

[examples/1/answer4.py](https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/1/answer4.py) (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/1/answer4.py>) [examples/1/answer4.pl](https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/1/answer4.pl) (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/1/answer4.pl>)

```
#!/usr/bin/python3
factor0 = 6
factor1 = 7
print(factor0 * factor1)
```

```
#!/usr/bin/perl -w
$factor0 = 6;
$factor1 = 7;
print $factor0 * $factor1, "\n";
```

[examples/1/answer1.py](https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/1/answer1.py) (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/1/answer1.py>) [examples/1/answer1.pl](https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/1/answer1.pl) (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/1/answer1.pl>)

```
#!/usr/bin/python3
answer = 6 * 7
print(answer)
```

```
#!/usr/bin/perl -w
$answer = 6 * 7;
print "$answer\n";
```

[examples/1/answer0.py](https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/1/answer0.py) (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/1/answer0.py>) [examples/1/answer0.pl](https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/1/answer0.pl) (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/1/answer0.pl>)

```
#!/usr/bin/python3

answer = 42
print(answer)
```

```
#!/usr/bin/perl -w

$answer = 42;
print "$answer\n";
```

pypl Subset 2 Examples

[examples/2/iota.py](https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/2/iota.py) (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/2/iota.py>)

[examples/2/iota.pl](https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/2/iota.pl) (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/2/iota.pl>)

```
#!/usr/bin/python3

x = 1
while x <= 10: print(x); x = x + 1
```

```
#!/usr/bin/perl -w

$x = 1;
while ($x <= 10) {
    print "$x\n";
    $x = $x + 1;
}
```

[examples/2/answer6.py](https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/2/answer6.py) (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/2/answer6.py>)

[examples/2/answer6.pl](https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/2/answer6.pl) (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/2/answer6.pl>)

```
#!/usr/bin/python3

answer = 0
while answer < 36: answer = answer + 7
print(answer)
```

```
#!/usr/bin/perl -w

$answer = 0;
while ($answer < 36) {
    $answer = $answer + 7;
}
print "$answer\n";
```

[examples/2/answer5.py](https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/2/answer5.py) (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/2/answer5.py>)

[examples/2/answer5.pl](https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/2/answer5.pl) (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/2/answer5.pl>)

```
#!/usr/bin/python3

answer = 41
if answer > 0: answer = answer + 2
if answer == 43: answer = answer - 1
print(answer)
```

```
#!/usr/bin/perl -w

$answer = 41;
if ($answer > 0) {
    $answer = $answer + 2;
}
if ($answer == 43) {
    $answer = $answer - 1;
}
print "$answer\n";
```

pypl Subset 3 Examples

[examples/3/five.py](https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/3/five.py) (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/3/five.py>)

[examples/3/five.pl](https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/3/five.pl) (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/3/five.pl>)

```
#!/usr/bin/python3

for i in range(0, 5):
    print(i)
```

```
#!/usr/bin/perl -w

foreach $i (0..4) {
    print "$i\n"
}
```

examples/3/triangle.py (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/3/triangle.py>) examples/3/triangle.pl (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/3/triangle.pl>)

```
#!/usr/bin/python3
import sys
x = 1
while x < 10:
    y = 1
    while y <= x:
        sys.stdout.write(" ")
        y = y + 1
    print()
    x = x + 1
```

```
#!/usr/bin/perl -w

$x = 1;
while ($x < 10) {
    $y = 1;
    while ($y <= $x) {
        print " ";
        $y = $y + 1;
    }
    print "\n";
    $x = $x + 1;
}
```

examples/3/size.py (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/3/size.py>)

```
#!/usr/bin/python3
import sys
sys.stdout.write("Enter a number: ")
a = int(sys.stdin.readline())
if a < 0:
    print("negative")
elif a == 0:
    print("zero")
elif a < 10:
    print("small")
else:
    print("large")
```

examples/3/size.pl (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/3/size.pl>)

```
#!/usr/bin/perl -w
print "Enter a number: ";
$a = <STDIN>;
if ($a < 0) {
    print "negative\n";
} elsif ($a == 0) {
    print "zero\n";
} elsif ($a < 10) {
    print "small\n";
} else {
    print "large\n";
}
```

examples/3/tetrahedral.py (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/3/tetrahedral.py>) examples/3/tetrahedral.pl (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/3/tetrahedral.pl>)

```
#!/usr/bin/python3
n = 1
while n <= 10:
    total = 0
    j = 1
    while j <= n:
        i = 1
        while i <= j:
            total = total + i
            i = i + 1
        j = j + 1
    print(total)
    n = n + 1
```

```
#!/usr/bin/perl -w

$n = 1;
while ($n <= 10) {
    $total = 0;
    $j = 1;
    while ($j <= $n) {
        $i = 1;
        while ($i <= $j) {
            $total = $total + $i;
            $i = $i + 1;
        }
        $j = $j + 1;
    }
    print "$total\n";
    $n = $n + 1;
}
```

examples/3/prime0.py (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/3/prime0.py>)examples/3/prime0.pl (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/3/prime0.pl>)

```
#!/usr/bin/python3
count = 0
i = 2
while i < 100:
    k = i/2
    j = 2
    while j <= k:
        k = i % j
        if k == 0:
            count = count - 1
            break
        k = i/2
        j = j + 1
    count = count + 1
    i = i + 1
print(count)
```

```
#!/usr/bin/perl -w
$count = 0;
$i = 2;
while ($i < 100) {
    $k = $i/2;
    $j = 2;
    while ($j <= $k) {
        $k = $i % $j;
        if ($k == 0) {
            $count = $count - 1;
            last;
        }
        $k = $i/2;
        $j = $j + 1;
    }
    $count = $count + 1;
    $i = $i + 1;
}
print "$count\n";
```

examples/3/odd.py (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/3/odd.py>)examples/3/odd.pl (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/3/odd.pl>)

```
#!/usr/bin/python3
import sys

number = 0
while number >= 0:
    sys.stdout.write("> ")
    number = int(sys.stdin.readline())
    if number >= 0:
        if number % 2 == 0:
            print("Even")
        else:
            print("Odd")
    print("Bye")
```

```
#!/usr/bin/perl -w
$number = 0;
while ($number >= 0) {
    print "> ";
    $number = <STDIN>;
    if ($number >= 0) {
        if ($number % 2 == 0) {
            print "Even\n";
        } else {
            print "Odd\n";
        }
    }
}
print "Bye\n";
```

examples/3/prime1.py (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/3/prime1.py>)examples/3/prime1.pl (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/3/prime1.pl>)

```
#!/usr/bin/python3
count = 0
for i in range(2, 100):
    k = i // 2
    j = 2
    for j in range(2, k + 1):
        k = i % j
        if k == 0:
            count = count - 1
            break
    k = i // 2
    count = count + 1
print(count)
```

```
#!/usr/bin/perl -w
$count = 0;
foreach $i (2..99) {
    $k = $i/2;
    $j = 2;
    foreach $j (2..$k) {
        $k = $i % $j;
        if ($k == 0) {
            $count = $count - 1;
            last;
        }
        $k = $i/2;
    }
    $count = $count + 1;
}
print "$count\n";
```

pypl Subset 4 Examples

examples/4/reverse_lines.0.py (https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/4/reverse_lines.0.py) examples/4/reverse_lines.0.pl (https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/4/reverse_lines.0.pl)

```
#!/usr/bin/python3

# written by andrewt@cse.unsw.edu.au as a COMP2041 lecture example
# Print line from stdin in reverse order

import sys

lines = []
for line in sys.stdin:
    lines.append(line)

i = len(lines) - 1
while i >= 0:
    print(lines[i], end='')
    i = i - 1
```

```
#!/usr/bin/perl -w

# written by andrewt@cse.unsw.edu.au as a COMP2041 lecture example
# Print line from stdin in reverse order

foreach $line (<STDIN>) {
    push @lines, $line
}

$i = @lines - 1;
while ($i >= 0) {
    print $lines[$i];
    $i = $i - 1;
}
```

examples/4/line_count.1.py (https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/4/line_count.1.py) examples/4/line_count.1.pl (https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/4/line_count.1.pl)

```
#!/usr/bin/python3

# written by andrewt@cse.unsw.edu.au as a COMP2041 lecture example
# Count the number of lines on standard input.

import sys

lines = sys.stdin.readlines()
line_count = len(lines)
print("%d lines" % line_count)
```

```
#!/usr/bin/perl -w

# written by andrewt@cse.unsw.edu.au as a COMP2041 lecture example
# Count the number of lines on standard input.

$line_count = 0;
while (<STDIN>) {
    $line_count++;
}

print "$line_count lines\n";
```

pypl Subset 5 Examples

examples/5/echonl.1.py (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/5/echonl.1.py>) examples/5/echonl.1.pl (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/5/echonl.1.pl>)

```
#!/usr/bin/python3
import sys
for i in range(1, len(sys.argv)):
    print(sys.argv[i])
```

```
#!/usr/bin/perl -w
foreach $i (1..@ARGV) {
    print "$ARGV[$i-1]\n";
}
```

examples/5/echonl.0.py (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/5/echonl.0.py>) examples/5/echonl.0.pl (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/5/echonl.0.pl>)

```
#!/usr/bin/python3
import sys
for arg in sys.argv[1:]:
    print(arg)
```

```
#!/usr/bin/perl -w
foreach $arg (@ARGV) {
    print "$arg\n";
}
```

examples/5/devowel1.py (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/5/devowel1.py>) examples/5/devowel1.pl (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/5/devowel1.pl>)

```
#!/usr/bin/python3
import fileinput, re
for line in fileinput.input():
    line = re.sub(r'[aeiou]', '', line)
    print(line, end='')

```

```
#!/usr/bin/perl -w
while ($line = <>) {
    $line =~ s/[aeiou]/g;
    print $line
}

```

examples/5/duplicate_first_names.py (https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/5/duplicate_first_names.py) examples/5/duplicate_first_names.pl (https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/5/duplicate_first_names.pl)

```
#!/usr/bin/python3
# Written by andrewt@cse.unsw.edu.au for COMP2041
# run as duplicate_first_names.py enrollments
# Report cases where there are multiple people
# of the same same first name enrolled in a course

```

```
import fileinput, re

cfn = {}
for line in fileinput.input():
    fields = line.split('|')
    course = fields[0]
    full_name = fields[2]
    m = re.match(r'[^.]+\s+(\S+)', full_name)
    if not m:
        continue
    first_name = m.group(1)
    if course not in cfn:
        cfn[course] = {}
    if first_name in cfn[course]:
        cfn[course][first_name] += 1
    else:
        cfn[course][first_name] = 1

for course in sorted(cfn.keys()):
    for first_name in sorted(cfn[course].keys()):
        n = cfn[course][first_name]
        if n > 1:
            print("In %s there are %d people with the first name %s" % (course, n, first_name))

```

```
#!/usr/bin/perl -w
# Written by andrewt@cse.unsw.edu.au for COMP2041
# run as duplicate_first_names.py enrollments
# Report cases where there are multiple people
# of the same same first name enrolled in a course

```

```
while ($line = <>) {
    @fields = split /\|/, $line;
    $course = $fields[0];
    $full_name = $fields[2];
    $full_name =~ /.+\s+(\S+)/ or next;
    $first_name = $1;
    $cfn{$course}{$first_name}++;
}

foreach $course (sort keys %cfn) {
    foreach $first_name (sort keys %{ $cfn{$course} }) {
        next if $cfn{$course}{$first_name} < 2;
        printf "In %s there are %d people with the first name %s\n", $course, $cfn{$course}{$first_name};
    }
}

```

examples/5/echo.2.py (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/5/echo.2.py>)

```
#!/usr/bin/python3
# written by andrewt@cse.unsw.edu.au as a COMP2041 example
# Python implementation of /bin/echo
import sys
print(' '.join(sys.argv[1:]))

```

examples/5/echo.2.pl (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/5/echo.2.pl>)

```
#!/usr/bin/perl -w
# written by andrewt@cse.unsw.edu.au as a COMP2041 example
# Python implementation of /bin/echo
print join(" ", @ARGV), "\n";

```

examples/5/count_enrollments.py (https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/5/count_enrollments.py)

```
#!/usr/bin/python3
# written by andrewt@cse.unsw.edu.au as a 2041 lecture example
# count how many people enrolled in each course
# run as count_enrollments.py enrollments
import fileinput, re

course_names = {}
for line in open("course_codes"):
    m = re.match(r'(\S+)\s+(\.\S)', line)
    if m:
        course_names[m.group(1)] = m.group(2);

count = {}
for line in fileinput.input():
    course = re.sub(r'\|.*\n', '', line)
    if course in count:
        count[course] += 1
    else:
        count[course] = 1

for course in sorted(count.keys()):
    print("%s has %s students enrolled"%(course_names[course], count[course]))
```

```
#!/usr/bin/perl -w
# written by andrewt@cse.unsw.edu.au as a 2041 lecture example
# count how many people enrolled in each course
# run as count_enrollments.py enrollments

open F, "<course_codes" or die "$0: can not open course_codes: $!";
while ($line = <F>) {
    chomp $line;
    $line =~ /[^\s]+ (\S+)/ or die "$0: bad line format '$line'";
    $course_names{$1} = $2;
}
close F;

while ($course = <>) {
    chomp $course;
    $course =~ s/\\|.*//;
    $count{$course}++;
}

foreach $course (sort keys %count) {
    print "$course_names{$course} has $count{$course} students enrolled\n";
}
```

examples/5/count_first_names.py (https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples/5/count_first_names.py)

```
#!/usr/bin/python3
# written by andrewt@cse.unsw.edu.au as a 2041 lecture example
# run as count_first_names.py enrollments
# count how many people enrolled have each first name

import fileinput, re

already_counted = {}
fn = {}
for line in fileinput.input():
    fields = line.split('|')
    student_number = fields[1]
    if student_number in already_counted:
        continue
    already_counted[student_number] = 1
    full_name = fields[2]
    m = re.match(r'.*\s+(\S+)', full_name)
    if m:
        first_name = m.group(1)
        if first_name in fn:
            fn[first_name] += 1
        else:
            fn[first_name] = 1

for first_name in sorted(fn.keys()):
    print("There are %2d people with the first name %s"%(fn[first_name], first_name))
```

```
#!/usr/bin/perl -w
# Written by andrewt@cse.unsw.edu.au for COMP2041
# run as count_first_names.pl enrollments
# count how many people enrolled have each first name

while ($line = <>) {
    @fields = split /\|/, $line;
    $student_number = $fields[1];
    next if $already_counted{$student_number};
    $already_counted{$student_number} = 1;
    $full_name = $fields[2];
    $full_name =~ /\.*/s+(\S+)/ or next;
    $first_name = $1;
    $fn{$first_name}++;
}

foreach $first_name (sort keys %fn) {
    printf "There are %2d people with the first name $first_name\n", $fn{$first_name};
}
```

Download

zip file of all examples (<https://cgi.cse.unsw.edu.au/~cs2041/assignments/pypl/examples.zip>)