

תשובות לשאלות במיופאד - תרגול 2

הפתרונות נכתבו בידי סטודנט בקורס (גל א.). השימוש בהם באחריות המשתמש בלבד!!!

Answers for MuPAD question number 1

Calculation for $N=172800$

```
c:=0:
for i from 1 to 172799 do
  if igcd(i,172800)=1 then c:=c+1: end_if:
end_for:
c
46080
```

Calculation for any given n

```
nocommonfactor:=proc(n)
  local i,c;
  begin
    c:=0:
    for i from 1 to (n-1) do
      if igcd(i,n)=1 then c:=c+1: end_if:
    end_for:
    return(c);
end_proc:
```

If n is prime, then for any i from 1 to n-1 (step size: 1): $\text{igcd}(i,n)=1$ (because n is prime). In that case and as a result, after the proc will run c will be assigned with n-1, as we could have expected.

Answers to MuPAD question number 4

```
for a from 1 to 10000 do
  b:=numlib::sumdivisors(a)-a:
  c:=numlib::sumdivisors(b)-b:
  if c=a and a<b then print (a,b); end_if:
end_for:
220, 284
1184, 1210
2620, 2924
5020, 5564
6232, 6368
```