

jms = 0100000

q:0
fmp = jms q

haps

lac i q

garg

isz q

=1

tad aexp

tad hexp

dac aexp

lac ans

lmq

lac ams

sna cll

jmp 2f

lls 1

dac 3f

dac 4f

lacq

dac 1f

lac hls

lmq

lac hms

sna cll

jmp 2f

lls 1

dac hms

lacq

dac hls

lac hms

mul

1:0

dac ans

lacq

dac ce10

lac hls

mul

3:0

dac ams

lacq

tad ce10

gik

dzm ce10

tad ams

szl cll

isz ce10

tad ans

szl cll

isz ce10

dac ans

lac hms

mul

4:0

dac ams

lacq

tad ans

szl cll

isz ce10

lmq

lac ce10

82

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92

```

tad ams
sma
jmp 5f
isz aexp
nop
lrs 1
5: xor rsign
dac ams
lacq
dac ans
jmp i q
2: dzm aexp
dzm ams
dzm ans
jmp i q

```

```

"
q: 0
fdv = jms q
lac i q
garq
isz q
lac hms
sna
sys save
ral
dac 2f
dac 3f
dac 4f
=1

```

```

tad hexp
cma
tad aexp
dac aexp
lac ans
lmq
lac ams
sna cll
jmp 8f
div

```

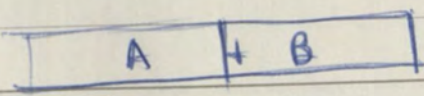
deep

$$\text{Rem} \left(\frac{\text{Ams}}{\text{Hms}} \right)$$

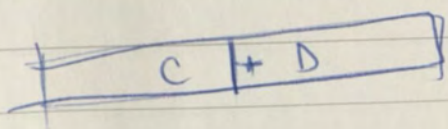
Hms

$$\frac{\text{Hls}}{\text{Hms}}$$

2: 0 *Hms*
szl
sys save
dac ce10 → Rem
lacq
dac 5f
lac ce10
frdiv



3: 0 *Hms*
szl
sys save
lacq
dac ce10
lac hls
and o377777
frdiv



4: 0
szl
sys save
lacq
dac 2b
spa cla

~~X~~
A+B

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=1
tad 2b
c11
mul

Q

5:0
dzm 2b
spa
isz 2b
lls 1
dac 3b
lacc
spa
isz 3b
skp
isz 2b

lac ce10

lmq
lac 3b
sna
jmp 6f
cma
tad d1
stl
tad ce10
lmq
szl
isz 2b

6: lac 2b
sna
tad d1
tad 5b
sma c11
jmp 7f
lrs 1
isz aexp
nop

7: xor rsign
dac ans
lacc
dac ans
jmp i q

8: dzm aexp
dzm ans
jmp i q

q:0
fad = jms q
lac i q
garg
isz q
lac hms
sna
jmp 4f
lac ans
sna
jmp 8f

7: lac aexp
cma
tad hexp
sna
jmp 5f

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dac ce10
tad d34
spa cla
jmp Of
lac ce10
cma
tad d1
xor o640500
dac 1f
lac hls
lmq
lac hms
c11
1:lrs 0
dac hms
lace
dac hls
lac rsign
sma
jmp 2f
lac hls
c11 cma
tad d1
dac hls
lac hms
szl cma
tad d1
dac hms
2:lac ams
rcr
dac ams
lac ans
rar
c11
tad hls
dac ans
glk
tad ams
tad hms
dac ams
sma
jmp 3f
lac ans
cma c11
tad d1
dac ans
lac ams
szl cma
tad d1
dac ams
lac o400000
3:isz aexp
nop
0:xor asign
and o400000
dac rsign
fno
4:lac ams
xor rsign
dac ams
jmp i q

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5:jms 6f
lac rsign
xor assign
dac assign
jmp 7b

8:jms 6f
jmp 4b

6:0
lac ans
lmq
lac hls
dac ans
lacq
dac hls
lac ams
lmq
lac hms
dac ams
lacq
dac hms
lac hexp
lmq
lac aexp
dac hexp
lacq
dac aexp
jmp i 6b

"
q:0
fno = jms q
lac ans
sad ams
sza cll
jmp 1f
dzm aexp
dzm rsign
jmp i q

"
1:lmq
lac ams
and o200000
sza
jmp i q
lac ams
cll
norm 36
dac ams
lacq
dac ans
lacs
tad o777743
cma
tad aexp
dac aexp
jmp i q

"
q:0
fcp = jms q
lac i q
garg
isz q

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```

lac rsign
spa
jmp 1h
lac ams
dac 5h
xor asign
dac ams
sna
jmp 2h
lac hms
sna cma
jmp 3h
lac hexp
cma
tad d1
tad aexp
sza
jmp 4h
2:lac hms
cma
3:tad d1
tad 5f
sza
jmp 4h
lac hls
cma
tad d1
tad ans
sza
4:xor asign
jmp i q
1:lac ams
xor d1
jmp i q
5:0

q: 0
garg = jms q
tad dm1
dac 8
lac i 8
dac hexp
lac i 8
lmg
and o377777
dac hms
lac i 8
dac hls
lacq
xor ams
and o400000
dac rsign
lac ams
and o400000
dac asign
lac ams
and o377777
dac ams
jmp i q

```

q: 0

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```
sfmp = jms q
lac i q
garg
isz q
-1
tad aexp
tad hexp
dac aexp
lac ams
sna rcl
jmp 2f
lmg
lac hms
sna rcl
jmp 2f
dac .+2
0641122; 0
sma
jmp 1f
rcr
xor rsign
dac ams
isz aexp
jmp i q
jmp i q
```

```
1:
xor rsign
dac ams
jmp i q
```

```
2:
dzm aexp
dzm ams
jmp i q
```

```
q: 0
sfdv = jms q
lac i q
garg
isz q
lac hexp
cma
tad aexp
tad d1
dac aexp
lac hms
sna ral cll
sys save
dac 1f
lac ams
frdiv; 1: 0
szl
sys save
lacq
spa
jmp 1f
xor rsign
dac ams
jmp i q
```

```
1:
rcr
xor rsign
```

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dac ams
isz aexp
jmp i q
jmp i q

q:0

sfa d = jms q
=1
ta d i q
isz q
dac 8
lac i 8
dac hexp
lac i 8
sma
jmp 1f
xor o377777
ta d a1

1:

lrss 1
dac hms
lac ams
sma
jmp 1f
xor o377777
ta d a1

1:

lrss 1
dac ams
lac hexp
cma
ta d aexp
ta d a1
sma
jmp 1f
cma
ta d a1
dac tmp
lac ams
lmq
lac hms
dac ams
lacq
dac hms
lac hexp
dac aexp
lac tmp

1:

ta d dm18
sma
jmp 3f
ta d o660522
dac 1f
lac hms

1:

lrss 0
dzm rsign
ta d ams
cli sma
jmp 1f
lmq
and o400000

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```
dac rsign
lacq
cma
tad d1
cll sma
jmp 1f
isz aexp
nop
rar
```

```
1:
sna
jmp 1f
norm 18
xor rsign
dac ams
lacs
tad om60
cma
tad aexp
dac aexp
jmp i q
```

```
1:
dzm aexp
dzm ams
jmp i q
```

```
3:
lac ams
rcl
sma
jmp 1f
cma
tad d1
xor o400000
```

```
1:
dac ams
jmp i q
q: 0
fld = jms q
-1
tad i q
dac 8
lac i 8
dac aexp
lac i 8
dac ams
lac i 8
dac ans
isz q
jmp i q
```

```
q: 0
fst = jms q
-1
tad i q
dac 8
lac aexp
dac i 8
lac ams
dac i 8
lac ans
dac i 8
```

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isz q
jmp i q

q: 0
fng = jms q
lac ams
sza
xor o400000
dac ams
jmp i q

q: 0
fix = jms q
lac aexp
spa sna
jmp 1f
tad dm18
sma
jmp 3f
cma
tad o660500
dac 2f
lac ams
sma
jmp 2f
xor o377777
tad d1

2:
lrss 0
jmp i q

1:
lac ams
lrss 18
jmp i q

3:
lac ams
and o400001
sma
lac o377777
jmp i q

q: 0
flt = jms q
dac tmp
dzm ans
sma
jmp 1f
cma
tad d1
spa
cla

1:
sza
jmp 1f
dzm aexp
dzm ams
jmp 2f

1:
clq
norm 36
dac ams

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```
lacs
tad om56
cma
dac aexp
```

```
2:
lac tmp
and o400000
xor ams
dac ams
jmp i q
```

```
tmp: 0
stmp: 0
ce10: 0
assign: 0
aexp: 0
ams: 0
ans: 0
hexp: 0
hms: 0
hls: 0
```

```
q: 0
sin = jms q
lac ams
and o400000
dac sign
lac ams
and o377777
dac ams
fst; ftmp1
fdv; fp1
fix
dac stmp
and d1
sna
jmp 1f
lac o400000
xor sign
dac sign
```

```
1:
lac stmp
flt
fmp; fp1
fng
fad; ftmp1
fst; strm
fst; sres
fst; ftmp2
fld; fp1
fst; sfac
=6
dac scnt
```

```
1:
bsin:
fld; sfac
fad; fp1
fst; ftmp1
fad; fp1
fst; sfac
fld; strm
```

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fmp; ftmp2
fmp; ftmp2
fdv; sfac
fdv; ftmp1
fng
fst; strm
fad; sres
fst; sres
isz scnt
jmp 1b
lac ans
xor sign
dac ans
jmp i q

q: 0
sqrt = jms q
lac aexp
tad d1
llss 0
rar
dac aexp
lac ans
lmq
lac ans
spa
sys save
dac 1f
snl
jmp 5f
lls 1
dac ans
lacq
dac ans

5:
lac 1f
sna
jmp q i
snl cll
xor o200000
xor o400000
dac 1f
lac ans
frdiv; 1:..
szl
clq
lacq
tad 1b
rar
c11
dac 2f
lac ans
frdiv; 2:..
szl
clq
lacq
tad 2b
rar
dac 3f
dac 4f
lac ans

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lmq
lac ams
c11
div; 3:..
sz1
clq ecla
dac 1b
lacq
tad 3b
clq lrs 1
c11
lrs 1
dac ams
lacq
dac 2b
lac 1b
frdiv; 4:..
sz1
sys save
lacq
lrs 2
tad 2b
dac ans
jmp q i

sfac: 0;0;0
ftmp1: 0;0;0
ftmp2: 0;0;0
strm: 0;0;0
scnt: 0
sres: 0;0;0
rsign: 0
sign: 0

fp1: 1;0200000;0

o400000: 0400000
o640500: 0640500
o200000: 0200000
d34: 34
o777743: 0777743
o2: 02
o377777: 0377777
dm18: -18
o377777: 0377777
om60: -060
o660522: 0660522
o660500: 0660500
o400001: 0400001
dm1: -1
om56: -056

fp1: 2;0311037; 0552421
fp1a2: 1; 0311037;0552421

buf;
cgarg = garg-jms
cfmp = fmp-jms
cfdv = fdv-jms
cfad = fad-jms
cfno = fno-jms
cfcp = fcp-jms
csfmp = sfmp-jms

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csfay == sfadvjms
csfap == sfadvjms
csfla == fladvjms
csfst == sfadvjms
csfng == fngvjms
csfix == fixvjms
csflt == fltadvjms
csin == sinadvjms

C

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" ln

```
lac 017777 i
sad d4
jmp error
lac 017777
tad d1
dac dirn
lac dirn i
sad gli
jmp clink
lac 017777
tad d5
dac dirn
dac name
```

loop:

```
lac 017777 i
sad d8
sys exit
tad dm4
dac 017777 i
lac name
tad d4
dac name
dac name1
sys link; dirn; 0; name; 0; name1; 0
sma
jmp loop
lac name
dac 1f
lac d1
sys write; 1; 0; 4
lac d1
sys write; errmes; 2
jmp loop
```

clink:

```
lac 017777 i
sad d8
jmp arg1
sad d12
jmp arg2
sad d16
jmp arg3
```

error:

```
lac d1
sys write; errmes+1; 1
sys exit
```

arg1:

```
lac 017777
tad d5
dac larg+1
dac larg+2
jmp dlink
```

arg2:

```
lac 017777
tad d5
dac larg
tad d4
```

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```
    dac larg+1
    dac larg+2
    jmp dlink
arg3:
    lac 017777
    tad d5
    dac larg
    tad d4
    dac larg+1
    tad d4
    dac larg+2
dlink:
    sys link; larg; defdir;0;0
    sma
    sys exit
    lac larg
    dac 1f
    lac larg+1
    dac 2f
    lac larg+2
    dac 3f
    lac d1
    sys write; 1;..; 4
    lac d1
    sys write; 2;..; 4
    lac d1
    sys write; 3;..; 4
    lac d1
    sys write; errmes; 2
    sys exit
```

```
errmes:
    040; 077012
d1: 1
qli: <li>
d12: 12
d16: 16
defdir: <sy>;<st>;<em>;040040
d4: 4
d8: 8
dm4: -4
d5: 5
```

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" ls
" list

lac 017777
tad d1
dac name
lac name i
sad ali
dac longflg
lac 017777 i
sad d4
skp
jmp loop
lav dd
dac name
jmp 2f

loop:
lac 017777 i
sad d4
jmp done
tad dm4
dac 017777 i
lac name
tad d4
dac name

2:
lav stbuf
sys status; dd; name;.i
spa
jmp badfile
lac s.flags
and o20
sna
jmp badfile
lac name
dac Of
sys open; 01. .; 0
spa
jmp badfile
dac fi
jms readdir
lac fi
sys close

1:
lac o200000
dac maxfn
jms findf
lac maxfn
sad o200000
jmp loop

lac longflg
sza
jms longout
lav maxfn
jms putfn
lav 012
jms putc
lac o200000
dac maxfp i
jmp 1b

814
815
816
817
818
819
820
821
822
823

```
longout: 0
lac name
dac 0f
law stbuf
sys status: 0: maxfn
lac s,i
jms octal; =3
lac s,flags
jms octal; =2
lac s,uid
jms octal; =2
=1
tad s,nlinks
cma
jms octal; =2
lac s,size
jms octal; =5
jmp longout i
```

```
octal: 0
lmq
lac d5
tad octal i
cma
dac t
```

```
1:
llss 3
isz t
jmp 1b
lac octal i
dac t
```

```
1:
ecla llss 3
tad o60
jms putc
isz t
jmp 1b
law 040
jms putc
isz octal
jmp octal i
```

```
toobig:
law 076
jms putc
law 040
jms putc
```

```
badfile:
lac name
jms putfn
law 040
jms putc
law 077
jms putc
law 012
jms putc
jmp loop
```

```
putfn: 0
```

814

815

816

817

818

819

810

811

812

```
dac t
=4
dac t1
```

1:

```
lac t i
lrss 9
sad 040
jmp putfn i
jms putc
lac t i
and 0177
sad 040
jmp putfn i
jms putc
isz t
isz t1
jmp 1b
jmp putfn i
```

done:

```
lac noc
sna
sys exit
and d1
sna cla
jmp 1f
jms putc
jmp done
```

1:

```
lac noc
rcr
dac 1f
lac fo
sys write; iopt+1; 1;.
sys exit
```

readdir: 0

```
lac fi
sys read; buf; 2048
sad ,=1
jmp toobig
lrss 3
cma
tad d1
dac ndir
jmp readdir i
```

findf: 0

```
lav buf
dac t
lac ndir
dac t1
```

1:

```
lac t i
sna
jmp 2f
isz t
lac t i
cma
tad maxfn
spa
```

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```
jmp 2f+1
lac t
dac maxfp
lac t i
dac maxfn
skp
```

```
2:
isz t
lac t
tad d7
dac t
isz t1
jmp 1b
```

```
lac maxfp
dac 8
lac 8 i
dac maxfn+1
lac 8 i
dac maxfn+2
lac 8 i
dac maxfn+3
jmp findf i
```

```
putc: 0
and o177
dac 2f+1
lac opt
dac 2f
add o400000
dac opt
spa
jmp 1f
lac 2f i
xor 2f+1
jmp 3f
```

```
1:
lac 2f+1
alss 9
```

```
3:
dac 2f i
isz noc
lac noc
sad d128
skp
jmp putc i
lac fo
sys write; iopt+1; 64
lac iopt
dac opt
dzm noc
jmp putc i
```

```
2: 0;0
fi: 0
opt: ,+2
iopt: ,+1; ,=,+64
noc: 0
fo: 1
longflg: 0
```

```
d1: 1
```

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```
a5: 5
o60: 060
o40: 040
o20: 020
d7: 7
o400000: 0400000
d128: 128
d4: 4
dm4: -4
o177: 0177
o200000: 0200000
da: 056056;040040;040040;040040
ali: <li>
```

```
t: ., +1
t1: ., +1
maxfn: ., +4
maxfp: ., +1
ndir: ., +1
stbuf:
  s, flags: ., +8
  s, uid: ., +1
  s, nlinks: ., +1
  s, size: ., +2
  s, i: ., +1
buf:
```

12
8811
810
896
888
877
866
855
814

" moo

jmp 1f

reset:

jms messg; <es>; <et>; 012; 0

1:

jms messg; <vr>; <u 077; 040; 0

sys open; moostat; 0

spa

sys exit

dac fi

sys open; moostat; 1

spa

sys exit

dac fo

jms readline

dzm user

skp

1:

isz user

jms getentry

jmp noentry

lac name

sad u.name

skp

jmp 1b

lac name+1

sad u.name+1

skp

jmp 1b

lac name+2

sad u.name+2

skp

jmp 1b

lac name+3

sad u.name+3

skp

jmp 1b

gloop:

jms messg; <re>; <ad>; <y 077; 040; 0

lav rname=1

dac 8

lav rhand=1

dac 9

=nrq

dac 2f

jms readch

1:

sad 8 i

jmp 9 i

isz 9

isz 2f

jmp 1b

jms messg; 077012; 0

jmp gloop

2: 0

noentry:

jms messg; <na>; <me>; 040; <no>; <t 040; <fo>
<un>; <d 073; 040; <en>; <te>; <r 077; 040; 0

jms readch

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88

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```
sad ch,y
skp
sys exit
jms newline
lac name
dac u,name
lac name+1
dac u,name+1
lac name+2
dac u,name+2
lac name+3
dac u,name+3
dzm u,ngames
dzm u,nguess
dzm u,ntime
dzm u,npenalty
jms putentry
jmp gloop
```

```
gstart1:
jms messg; <es>; 012; 0
```

```
gstart:
jms random
dac a1
```

```
1:
jms random
sad a1
jmp 1b
dac a2
```

```
1:
jms random
sad a1
jmp 1b
sad a2
jmp 1b
dac a3
```

```
1:
jms random
sad a1
jmp 1b
sad a2
jmp 1b
sad a3
jmp 1b
dac a4
dzm nguess
```

```
guessloop:
jms readguess
lac nguess
sza
jmp 1f
sys time
lacq
rcr
dac stime
```

```
1:
dzm nbull
dzm ncov
lac g1
```

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```

sad a1
isz nbull
sad a2
isz ncov
sad a3
isz ncov
sad a4
isz ncov
lac g2
sad a1
isz ncov
sad a2
isz nbull
sad a3
isz ncov
sad a4
isz ncov
lac g3
sad a1
isz ncov
sad a2
isz ncov
sad a3
isz nbull
sad a4
isz ncov
lac g4
sad a1
isz ncov
sad a2
isz ncov
sad a3
isz ncov
sad a4
isz nbull
lac nbull
sad d4
jmp gdone
jms resse; 040040; 040040; 040040; <bc>; 075; 0
lac nbull
jms number
lac ncov
jms number
jms newline
isz nguess
jmp guessloop

```

```

gdone:
sys time
lacq
rcr
cma
tad stime
cma
spa
tad 0400000
rcr
dac stime
lac u,ntime
tad stime
dac u,ntime

```

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```
lac u,nguess
tad nguess
dac u,nguess
isz u,ngames
jms putentry
jms messg; 012; <g 075; 0
lac nguess
jms number
jms messg; 040; <t 075; 0
lac stime
cli; idiv; 15
laeq
jms number
jms newline
jmp gloop
```

```
random: 0
sys time
laeq
tad rand
cli; mul; 78125
laeq
dac rand
cli; idiv; 10
jmp random i
```

```
newline: 0
jms messg; 012; 0
jmp newline i
```

```
number: 0
lmg
lav 2f+1
dac 3f
laeq
1:
cli; idiv; 10
tad o60
dac 3f i
isz 3f
laeq
sza
jmp 1b
```

```
1:
=1
tad 3f
dac 3f
lac 3f i
sna
jmp number i
dac .+2
jms messg; .; 0
jmp 1b
2: 0; ., +10
3: ., +1
```

```
readguess: 0
jms messg; 077040; 0
jms cnum
dac g1
jms cnum
```

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```
dae g2
jms cnum
dae g3
jms cnum
dae g4
jms readch
sad o12
jmp readguess i
jmp readguess+1
```

```
cnum: 0
jms readch
tad om60
spa
jmp readguess+1
dae 1f
tad dm10
sma
jmp readguess+1
lac 1f
jmp cnum i
```

1: 0

```
readch: 0
cla
sys read: 1f: 1
lac 1f
lrss 9
jmp readch i
```

1: 0

```
readline: 0
=1
dae r1f
jms read2
dae name
jms read2
dae name+1
jms read2
dae name+2
jms read2
dae name+3
jmp readline i
```

```
read2: 0
jms read1
alss 9
dae 1f
jms read1
xor 1f
jmp read2 i
```

1: 0

```
read1: 0
lac r1f
sna
jmp 1f
jms readch
sad o12
skp
jmp read1 i
```

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dzm r1f

1:
lac 040
jmp read1 i
r1f: 0

getentry: 0

lac user
cli; mul; 16
lacq
dac 0f
lac fi
sys seek; 0i.; 0
lac fi
sys read; userdata; 16
sza
isz getentry
jmp getentry i

putentry: 0

lac user
cli; mul; 16
lacq
dac 0f
lac fo
sys seek; 0i.; 0
lac fo
sys write; userdata; 16
jmp putentry i

average:

jms messg; <ve>; <r 012> 0
jms payer
jmp gloop

standing:

jms messg; <ta>; <nd>; 012; 0
lac user
dac 2f
dzm user
skp

1:

isz user
jms getentry
jmp 1f
lac d1
sys write; u.name; 4
jms payer
jmp 1b

1:

lac 2f
dac user
jms getentry
nop
jmp gloop

2: 0

payer: 0

lac u.ngames
sna
jmp 1f

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```

jms messg; <n 075; 0
lac u,ngames
jms number
jms messg; 040; <g 075; 0
lac u,nguess
jms number
lac u,nguess
jms aver
jms messe; 040; <t 075; 0
lac u,ntime
cli; idiv; 15
lacq
jms number
lac u,ntime
cli; idiv; 15
lacq
jms aver
jms newline
jmp paver i

```

```

1:
jms messg; <no>; 040; <ga>; <me>; <s 012; 0
jmp paver i

```

```

aver: 0
dac 1f
lac u,ngames
dac 0f
jms messg; 050; 0
lac 1f
cli; idiv; 01.;
dac 1f
lacq
jms number
jms messg; 056; 0
lac u,ngames
dac 0f
lac 1f
cli; mul; 100
cli; div; 01.;
ecla; div; 10
dac 1f
lacq
jms number
lac 1f
jms number
jms messg; 051; 0
jmp aver i

```

```

1: ., +1

```

```

messg: 0
=1
fad messg
dac 8

```

```

1:
lac 8 i
sna
jmp 8 i
dac 1f
lac d1
sys write; 1f; 1
jmp 1b

```

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 100

1: 0

rqname:

y>
q>
a>
s>
r>

nrq = ,rqname

rqhand:

jmp gstart1
jmp quit
jmp average
jmp standings
jmp reset

quit:

jms messg; <ui>; <t 012; 0
sys exit

d1: 1

o400000: 0400000

o60: 060

om60: =060

dm10: =10

d4: 4

o40: 040

o12: 012

ch,y: y>

m1: <vr>;<u 077; 040

m1s = ,m1

m2: <re>;<ad>;<y 077; 040

m2s = ,m2

m3: <na>;<me>;040;<no>;<t 040>;<fo>;<un>;<d 012

<en>;<te>;<r 077; 040

m3s = ,m3

m5: 077040

m5s = ,m5

m7: 012;<gu>;<es>;<s 075

m7s = ,m7

m8: <av>;<g 075

m8s = ,m8

m9: 057

m9s = ,m9

m10: 040075; 040

m10s = ,m10

moostat: <mo>;<os>;<ta>;<t 040

f1: , , +1

f0: , , +1

name: , , +4

nguess: , , +1

nbull: , , +1

ncow: , , +1

stime: , , +1

a1: , , +1

a2: , , +1

a3: , , +1

a4: , , +1

q1: , , +1

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```
q2: .#. +1
q3: .#. +1
q4: .#. +1
rand: .#. +1
user: .#. +1
userdata:
  u.name: .#. +4
  u.ngames: .#. +1
  u.nguess: .#. +1
  u.ntime: .#. +1
  u.npenalty: .#. +1
  u.hguess: .#. +1
  u.lguess: .#. +1
  u.htime: .#. +1
  u.ltime: .#. +1
  . = userdata+16
```

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" nm

```
lac 017777 i
sad d4
skp
jmp 1f
lav n,out
dac fname
jmp 2f
```

1:

```
lac 017777
tad d1
dac fname
```

loop:

```
lac 017777 i
sad d4
jmp done
tad dm4
dac 017777 i
lac fname
tad d4
dac fname
```

2:

```
lav 012
jms putc
sys open; fname; 0; 0
sma
jmp 1f
lac fname
dac 2f
lac d1
sys write; 2; 0; 4
lac d1
sys write; mes; 2
jmp loop
```

mes:

```
040077; 012
```

1:

```
lac d2
sys read; buf; 3072
ell; idiv; 6
laeq
dac size
lav c200000
dac c2
```

print:

```
lac c200000
dac c2 i
dzm c2name
=1
tad size
cma
dac c1
lav buf
dac c3
lac c200000
dac c2name
```

1:

```
lac c3 i
```

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```
cma
tad c2name
spa
jmp 2f
lac c3 i
dac c2name
lac c3
dac c2
```

2f

```
lav 6
tad c3
dac c3
isz c1
jmp 1b
lac c2name
sad 0200000
skp
jmp 1f
lac d2
sys close
jmp loop
```

1f

```
lac c2
tad d3
dac t
lac i t
sna
jmp print
isz t
lac i t
sna
jmp print
=1
tad c2
dac 8
=4
dac c3
```

1f

```
lac 8 i
lrss 9
jms putc
llss 9
jms putc
isz c3
jmp 1b
lac i t
sad d3
jmp undef
sna
jmp 1f
lav 0162
skp
```

1f

```
lav 0141
dac type
lav 040
jms putc
isz t
lac i t
lmg
```

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```
-6
dac c3
1:
cla
llss 3
tad o60
jms putc
isz c3
jmp 1b
lav 040
jms putc
lae type
jms putc
lav 012
jms putc
jmp print
```

```
undef:
-8
dac c3
1:
lav 040
jms putc
isz c3
jmp 1b
lav 0165
jms putc
lav 012
jms putc
jmp print
```

```
done:
lae noc
sna
sys exit
and d1
sna cla
jmp 1f
jms putc
jmp done
```

```
1:
lae noc
rcf
dac 1f
lae fo
sys write; iopt+1; 1;.
sys exit
```

```
putc: 0
and o777
dac 2f+1
lae opt
dac 2f
add o400000
dac opt
spa
jmp 1f
lac 2f i
xor 2f+1
jmp 3f
```

```
1:
lac 2f+1
```

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alss 9

3:

```
dae 2f i
isz noc
lae noc
sad d128
skp
jmp putc i
lae fo
sys write; iopt+1; 64
lae iopt
dae opt
dzm noc
jmp putc i
```

```
2: 0;0
ipt: 0
eipt: 0
iip: ,+1; ., +64
fi: 0
opt: ,+2
iopt: ,+1; ., +64
noc: 0
fo: 1
```

```
c1: 0
c2: 0
c3: 0
t: 0
size: 0
c2name: 0
type: 0
```

```
d1: 1
d128: 128
o200000: 0200000
o777: 0777
o400000: 0400000
d2: 2
d4: 4
dm4: =4
o60: 060
d3: 3
d6: 6
n,out:
0156056;0157165;0164040;040040
buf:
```

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" op

sys = 0020000
dac = 0040000
jms = 0100000
dzm = 0140000
lac = 0200000
xor = 0240000
add = 0300000
taa = 0340000
xct = 0400000
isz = 0440000
and = 0500000
sad = 0540000
jmp = 0600000
lav = 0760000

nop = 0740000
cma = 0740001
cml = 0740002
oas = 0740004
ral = 0740010
rar = 0740020
hit = 0740040
sma = 0740100
sza = 0740200
snl = 0740400
skp = 0741000
spa = 0741100
sna = 0741200
szi = 0741400
rtl = 0742010
rrr = 0742020
crl = 0744000
stl = 0744002
rel = 0744010
rer = 0744020
cla = 0750000
clc = 0750001
las = 0750004
glk = 0750010
lrs = 0640500
lrss = 0660500
lls = 0640600
llss = 0660600
als = 0640700
alss = 0660700
norm = 0640444
norms = 0660444
mul = 0653122
muls = 0657122
div = 0640323
divs = 0644323
idiv = 0653323
idivs = 0657323
frdiv = 0650323
frdivs = 0654323
lacq = 0641002
lacs = 0641001
clq = 0650000
ads = 0644000
gsm = 0664000

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