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LAB : 03

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1. Compute tan(x)

=> x = 45

Code:

```
data segment
th dd 45.0
d dd 180.0
pi dd 3.1428
res dd ?
data ends

code segment

assume cs:code , ds:data
start:
mov ax, data
mov ds, ax
finit
fld th
fldpi
fmul
fdiv d
fptan
fxch
fst res
int 03h
code ends
end start
```

Output :

2. Compute sin(x)

=> x = 60

Code :

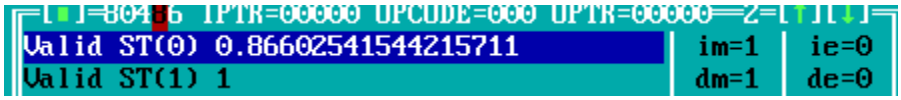
```
data segment
th dd 60.0
d dd 180.0
one dd 1.0
res dd ?
data ends

code segment

assume cs:code , ds:data
start:
mov ax, data
mov ds, ax
finit
fld th
fldpi
fmul
fdiv d
fptan
fxch
fst res
fld one
fld res
fmul res
fadd
fsqrt
fdiv
fst res
int 03h
```

code ends
end start

Output :



3. Compute cos(x)

=> x = 60

Code :

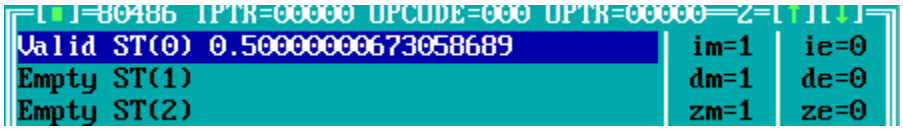
```
data segment
th dd 60.0
d dd 180.0
one dd 1.0
res dd ?
data ends

code segment

assume cs:code , ds:data
start:
mov ax, data
mov ds, ax
finit
fld th
fldpi
fmul
fdiv d
fptan
fxch
fstp res
fld one
fld res
fmul res
fadd
fsqrt
fdiv
```

```
fst res
int 03h
code ends
end start
```

Output:



5. Compute xsqrt(y) + ysqrt(x)

=> x= 4.0 , y = 4.0

Code:

```
data segment
x dd 4.0
y dd 4.0
res dd ?
data ends

code segment

assume cs:code , ds:data
start:
mov ax, data
mov ds, ax
finit
fld x
fld y
fsqrt
fmul
fld y
fld x
fsqrt
fmul
fadd
fst res

int 03h
code ends
```

```
end start
```

Output :

6. Find resonance frequency

=> l = 4.0 , c = 4.0

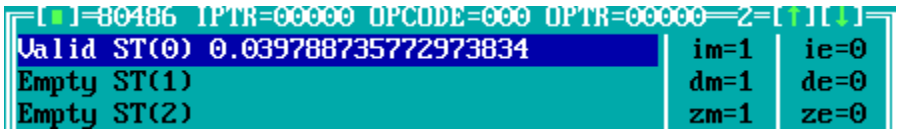
Code : .

```
data segment
c1 dd 2.0
c2 dd 1.0
l dd 4.0
c dd 4.0
res dd ?
data ends

code segment

assume cs:code , ds:data
start:
mov ax, data
mov ds, ax
finit
fld c2
fld l
fmul c
fsqrt
fmul c1
fldpi
fmul
fdiv
fst res
int 03h
code ends
end start
```

Output:



7. Compute tan inverse (y/x)

=> x = 1.0 y = 1.0

Code :

```
data segment
x dd 1.0
y dd 1.0
c1 dd 180.0
res dd ?
data ends

code segment

assume cs:code , ds:data
start:
mov ax, data
mov ds, ax
finit
fld y
fld x
fpatan
fmul c1
fldpi
fdiv
fst res
int 03h
code ends
end start
```

Output:

8. Compute area of a cone.

=> l = 2.0, r = 2.0

Code :

```
data segment
l dd 2.0
r dd 2.0
c1 dd 180.0
res dd ?
data ends

code segment

assume cs:code , ds:data
start:
mov ax, data
mov ds, ax
finit
fldpi
fld l
fld r
fadd
fmul
fmul r
fst res
int 03h
code ends
end start
```

Output: