Floating Point Instructions Homework Code

```
;; This program evaluates the volume of a sphere for an inputted radius.  The
;; volume of a sphere with radius r is given by 4/3*pi*r3 .
            include pcmac.inc
            .model          small
            .stack  100
            .data
four        dd  4.0
three       dd  3.0
prompt      db  0dh, 0ah, 'Enter the radius: $'
result      db  0dh, 0ah, 'The volume of the sphere is: $'

        .code
prog    proc
        extrn       getfp : near
        extrn       putfp : near
        mov         ax, @data
        mov         ds, ax

        _putstr     prompt
        call        getfp           ; st0 = r
        fld         st              ; st0 = r, st1 = r
        fld         st              ; st0 = r, st1 = r, st2 = r
        fmul                        ; st0 = r^2, st1 = r
        fmul                        ; st0 = r^3
        fldpi                       ; st0 = pi, st1 = r^3
        fmul                        ; st0 = pi * r^3
        fld         four            ; st0 = 4.0, st1 = pi * r^3
        fmul                        ; st0 = 4.0 * pi * r^3
        fld         three           ; st0 = 3.0, st1 = 4.0 * pi * r^3
        fdiv                        ; st0 = 4.0 * pi * r^3 / 3.0
        _putstr     result
        call        putfp           ; pops fp stack and display st0
```

```
        _putch      0ah             ; prints a blank line


        mov         al, 0           ; return code of 0
        mov         ah, 4ch         ; function code for exit to os
        int         21h
prog    endp
        end         prog
```

Floating Point Instructions Homework Output