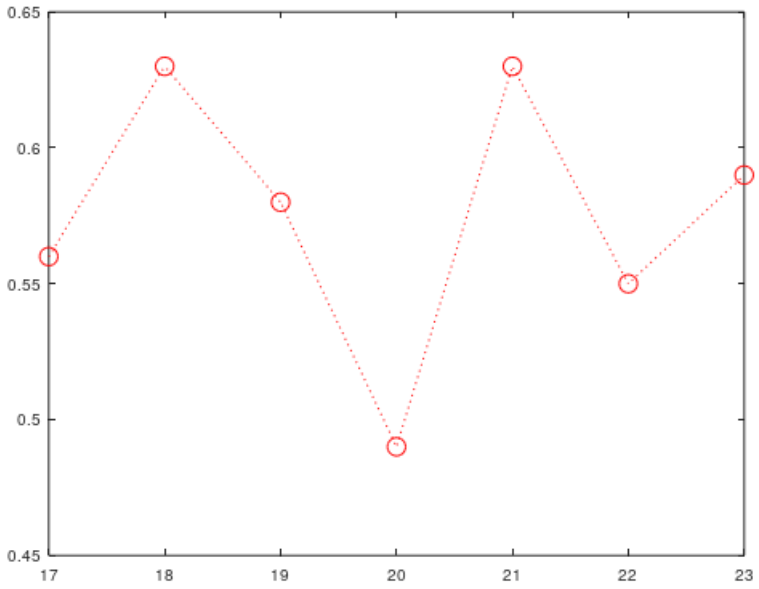
```
disp("\nЗадание 1\n")

function r = f1(x)
    if (x > 3.5)
        r = sin(x).*log10(x);
    else
        r = cos(x).^2;
    endif
endfunction

xs = 2 : 1 : 5;

disp("   X         F(X)");
disp(transpose([xs; f1(xs)]));


disp("enter для продолжения")
#pause()
disp("\nЗадание 2\n")

function [r, count] = f2(tol, i=1)
    r = (-1)^i * (pi/6)^(2*i) / factorial(2*i);
    count = i;

    if (abs(r) < tol)
        return;
    endif

    [fr, fcount] = f2(tol, i+1);
    r = r + fr;
    count = fcount;
endfunction

[sum_, count] = f2(10^-4);
disp("\nСумма: "); disp(sum_);
disp("\nКол-во членов: "); disp(count);

disp("enter для продолжения")
#pause()
disp("\nЗадание 3\n")

_min = 10
_max = 99

M = floor(rand(50)(1, :).*(_max-_min+1).+_min);
disp("матрица: "); disp(M);

sum_ = 0;
for i = 1 : 50
    if mod(M(i),3) == 0
        sum_ = sum_ + M(i);
    endif
endfor
disp(sum_);

disp("enter для продолжения")
#pause()
disp("\nЗадание 4\n")

x = [17 18 19 20 21 22 23];
y = [0.56 0.63 0.58 0.49 0.63 0.55 0.59];

d = 0;
min_dif = 0.0001;

while true
    P = polyfit(x,y,d);
    py = polyval(P, x);

    if sum( abs(y.-py) ) < min_dif
        break;
    endif

    d = d + 1 ;
endwhile
```



```
76
77  plot (x, y, 'ro', x, py, 'r:')
78  disp(P);
79  disp(roots(P));
80
```