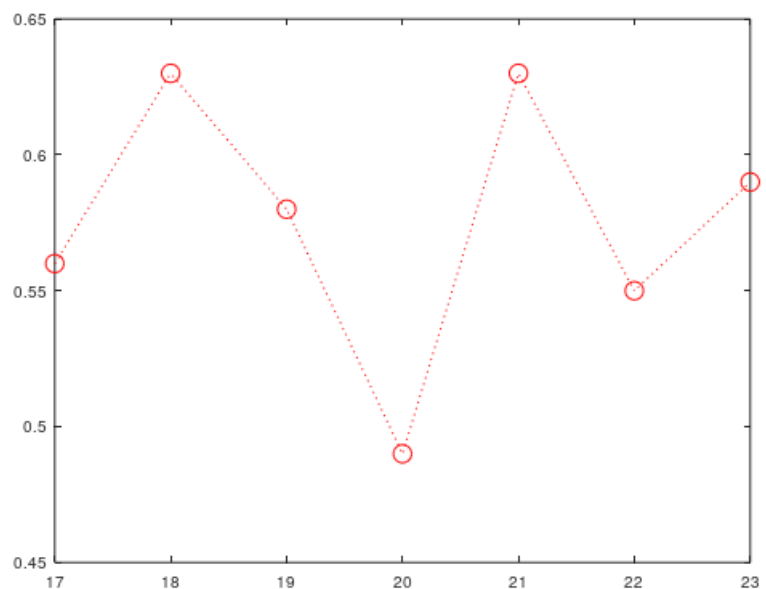


```

1 disp("\nЗадание 1\n")
2
3 function r = f1(x)
4     if (x > 3.5)
5         r = sin(x).*log10(x);
6     else
7         r = cos(x).^2;
8     endif
9 endfunction
10
11 xs = 2 : 1 : 5;
12
13 disp(" X      F(X)");
14 disp(transpose([xs; f1(xs)]));
15
16
17 disp("enter для продолжения")
18 #pause()
19 disp("\nЗадание 2\n")
20
21 function [r, count] = f2(tol, i=1)
22     r = (-1)^i * (pi/6)^(2*i) / factorial(2*i);
23     count = i;
24
25     if (abs(r) < tol)
26         return;
27     endif
28
29     [fr, fcount] = f2(tol, i+1);
30     r = r + fr;
31     count = fcount;
32 endfunction
33
34 [sum_, count] = f2(10^-4);
35 disp("\nСумма: "); disp(sum_);
36 disp("\nКол-во членов: "); disp(count);
37
38 disp("enter для продолжения")
39 #pause()
40 disp("\nЗадание 3\n")
41
42 _min = 10
43 _max = 99
44
45 M = floor(rand(50)(1, :).*( _max-_min+1).+_min);
46 disp("матрица: "); disp(M);
47
48 sum_ = 0;
49 for i = 1 : 50
50     if mod(M(i),3) == 0
51         sum_ = sum_ + M(i);
52     endif
53 endfor
54 disp(sum_);
55
56 disp("enter для продолжения")
57 #pause()
58 disp("\nЗадание 4\n")
59
60 x = [17 18 19 20 21 22 23];
61 y = [0.56 0.63 0.58 0.49 0.63 0.55 0.59];
62
63 d = 0;
64 min_dif = 0.0001;
65
66 while true
67     P = polyfit(x,y,d);
68     py = polyval(P, x);
69
70     if sum( abs(y.-py) ) < min_dif
71         break;
72     endif
73
74     d = d + 1 ;
75 endwhile

```



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