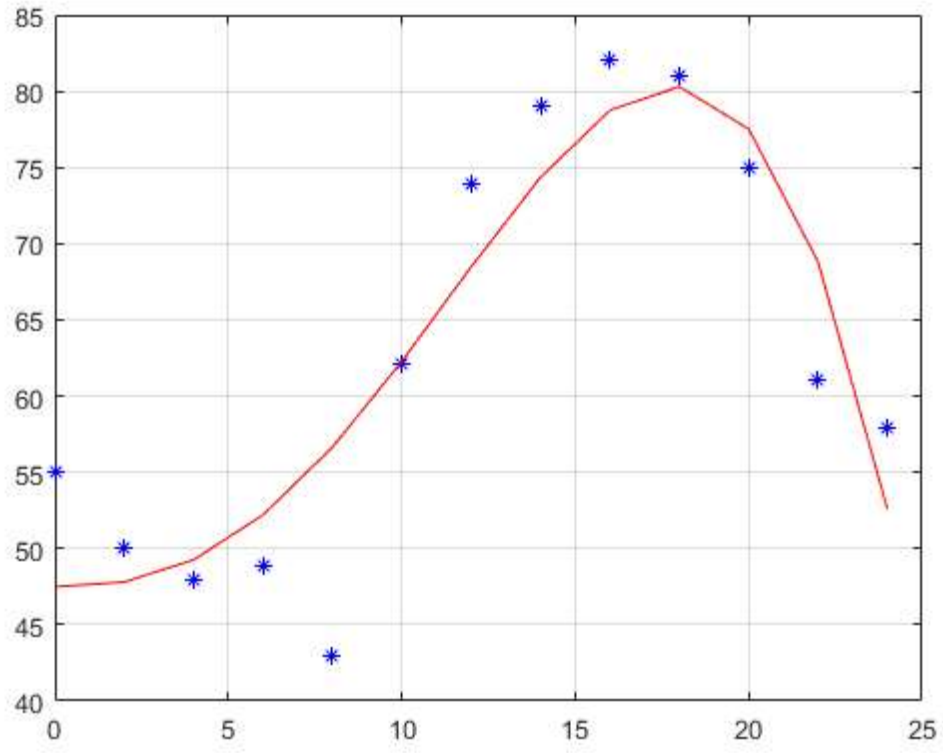
```
t=[0 2 4 6 8 10 12 14 16 18 20 22 24]

temp=[55 50 48 48.9 43 62.1 73.9 79 82 81 75 61 57.9]

hightemp = max(temp)

lowtemp = min(temp)

yr = (hightemp-lowtemp);                % Range of 'y'

yz = temp-hightemp+(yr/2);

meantemp = mean(temp)                % Estimate offset

fit = @(a,t) (a(6)+t.^a(5)).*a(1).*(cosd(2*pi*t./a(2) + 2*pi/a(3))) + a(4);    % Function to fit

fcn = @(a) norm(fit(a,t) - temp);                                              % Least-Squares fit

s = fminsearch(fcn, [yr; pi; -1; meantemp; 1; 1]);                             % Minimise fit

xp = t;

figure(1)

plot(t,temp,'*b', xp,real(fit(s,xp)), 'r')

grid
```

```
t =

     0     2     4     6     8    10    12    14    16    18    20    22    24

temp =

  Columns 1 through 7

   55.0000   50.0000   48.0000   48.9000   43.0000   62.1000   73.9000

  Columns 8 through 13

   79.0000   82.0000   81.0000   75.0000   61.0000   57.9000

hightemp =

    82

lowtemp =

    43

meantemp =

   62.8308
```

```
Exiting: Maximum number of function evaluations has been exceeded
         - increase MaxFunEvals option.
         Current function value: 20.434909
```



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