```
x = linspace (4, 15, 1000);
newton = @(x) -17.51275 + 13.44*x - 2.3889*x.^2 + 0.175*x.^3 - 0.00455*x.^4
```

```
newton = function_handle with value:
    @(x)-17.51275+13.44*x-2.3889*x.^2+0.175*x.^3-0.00455*x.^4
```

```
y = newton (x) ;

plot (x,y)
xlabel("x");
ylabel("y");

cubic1 = @(x) -0.786*x.^3 - 9.438*x.^2 + 31.965*x - 22.19;
cubic2 = @(x) -0.332*x.^3 + 7.334*x.^2 -51.895*x +124.578;
cubic3 = @(x) 0.011*x.^3 - 0.893*x.^2 + 13.92*x -48.933;
cubic4 = @(x) 0.0328*x.^3 -1.608*x.^2 - 21.783*x - 75.759;

for i = 1:1000
    if x(i)>=4 && x(i)<=5
       y1(i) = cubic1(x(i));
    end
    if x(i)>5 && x(i)<=8
       y1(i) = cubic2(x(i));
    end
    if x(i)>8 && x(i)<=11
       y1(i) = cubic3(x(i));
    end
    if x(i)>11 && x(i)<=15
       y1(i) = cubic4(x(i));
    end
end

hold on
plot (x,y1)
hold off
legend( "Newton Interpolation ", "Cubic spline ") ;
```