```
function [result] = ...
    periodickernel(XN, XM, sigma0, lengthscale, p, return_k)
l = lengthscale;
sin_fun = sin(pi * pdist2(XN,XM) / p);
\exp_{\text{fun}} = \exp(-(2 / (1^2)) * (\sin_{\text{fun}}^2));
cov = (sigma0^2) * exp_fun;
if return_k == 1
    result = cov;
    return
else
    % gradient vector
    dk_dsigma0 = 2 * sigma0 * exp_fun;
    dk_dl = sigma0^2 * (4*(sin_fun.^2)/(1^3)) * exp_fun;
    dk_dp = -4 * (sigma0 / (1 * p))^2 * pi * pdist2(XN,XM) * exp_fun;
    result = [dk_dsigma0; dk_dl; dk_dp];
end
Not enough input arguments.
Error in periodickernel (line 4)
1 = lengthscale;
```

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