Homework on packages

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Several people have asked about loading commands into a package. This can be done with a module, but that is not a method I have used much. Instead I tend to put things into a file.

Technical detail - we want to know the current directory to know where the file will be located. This will vary based on whether you start Maple by double clicking, or by opening a file.

```
> currentdir();
```

"/Users/mikemay/Desktop" **(1)**

```
>
```

Now we want to create some commands and constants for use in worksheets.

```
> example1 := 2;
  example2 := x/3;
  example3 := sin(x)+2;
  LowX := 0;
  HighX := 2*Pi;
```

$$example1 := 2$$

$$example2 := \frac{1}{3} x$$

$$example3 := \sin(x) + 2$$

$$LowX := 0$$

$$HighX := 2\,\pi$$ **(2)**

```
>
```

Now we want some functions.

```
> PlotRotationX := proc(Function, LowX, HighX)
    local Surface, Curve:
    Surface := plot3d(
        [x, Function*sin(t), Function*cos(t)],
        x=LowX..HighX, t=0..2*Pi, axes=boxed,
        scaling=constrained, color=red):
    Curve := plots[spacecurve]([x,Function,0],
        x=LowX..HighX, thickness=3, color=blue):
    plots[display3d]({Curve, Surface});
  end proc;
```

PlotRotationX := **proc**(*Function*, *LowX*, *HighX*) **(3)**

local *Surface*, *Curve*;

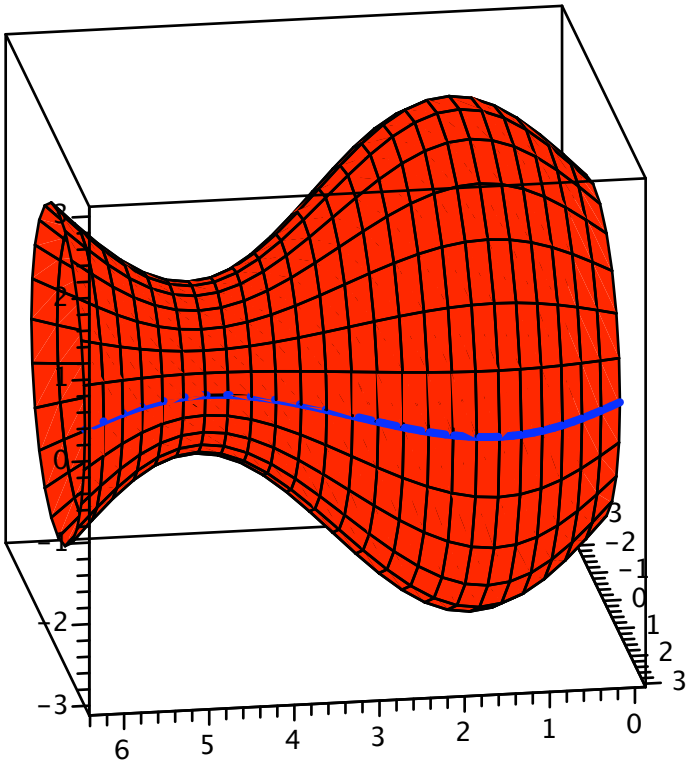
Surface := *plot3d*([*x*, *Function* * sin(*t*), *Function* * cos(*t*)], *x* = *LowX*..*HighX*, *t* = 0..2 * Pi, *axes* = *boxed*, *scaling* = *constrained*, *color* = *red*);

Curve := *plots*[*spacecurve*]([*x*, *Function*, 0], *x* = *LowX*..*HighX*, *thickness* = 3, *color* = *blue*);

plots[*display3d*]({*Surface*, *Curve*})

end proc

```
> PlotRotationX(example3, LowX, HighX);
```




```
> save
   PlotRotationX, example1, example2, example3,
   LowX, HighX,
   `SeeRotation.m`;
>
```