

212 Lab #2 Key

The dirfield code needs to be saved to the path you are using for MatLab. If the program can't find it, select Open, and search for where you have the file saved, and open it. Add it to the path when asked. You will need to run the code to install the function. You may get an error saying there are enough arguments; that's okay. MATLAB will now be able to find the code and it will work when you input the rest of the arguments per the model file.

1a.

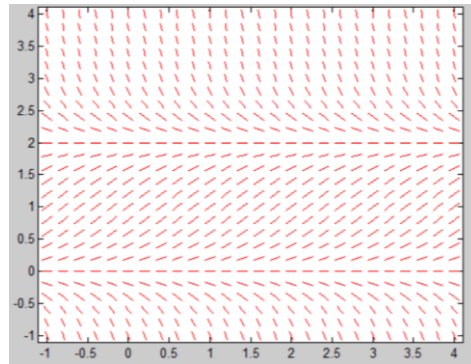
```
>> f=@(t,y)y*(2-y)
```

f =

```
@(t,y)y*(2-y)
```

```
>> dirfield(f,-1:.2:4,-1:.2:4)
```

This equation is autonomous. The t dimensions don't matter. The provided ones are for y.



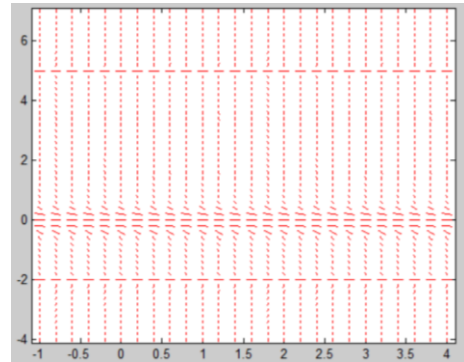
1b.

```
>> f=@(t,y)y^2*(y+2)*(y-5)
```

f =

```
@(t,y)y^2*(y+2)*(y-5)
```

```
>> dirfield(f,-1:.2:4,-4:.2:7)
```



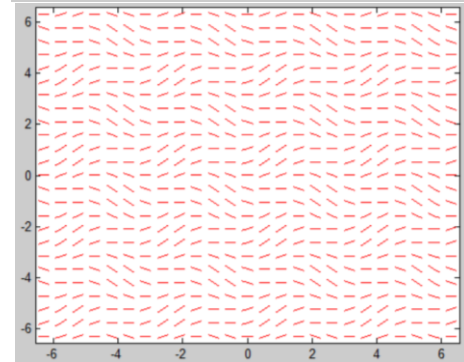
1c.

```
>> f=@(t,y)cos(t-y)*sin(t+y)
```

f =

```
@(t,y)cos(t-y)*sin(t+y)
```

```
>> dirfield(f,-2*pi:pi/6:2*pi,-2*pi:pi/6:2*pi)
```



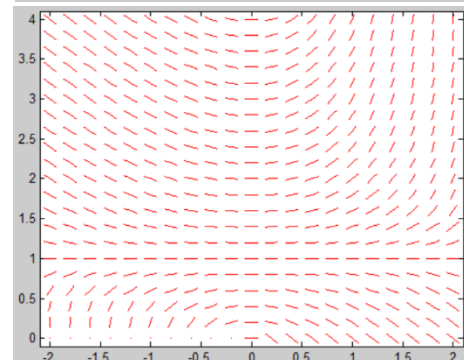
1d.

```
>> f=@(t,y)y^t-1
```

f =

```
@(t,y)y^t-1
```

```
>> dirfield(f,-2:.2:2,0:.2:4)
```



1e.

```
>> f=@(t,y)(3-t+y)/(1-t^2-y^2)
```

f =

```
@(t,y)(3-t+y)/(1-t^2-y^2)
```

```
>> dirfield(f,-2:.2:2,-3:.2:3)
```

