

Computer Science G12

Assignment 4

Due date: Mon Dec 18 2017

Problem

Extend the code for vectors such that the following **test code**:

```
var v1 = new Vector(1,2,"v1");
var v2 = new Vector(3,4,"v2");
print(v1)
print(" |v1|="+v1.length() +"<br><br>")
print(v2)
print(" |v2|="+v2.length() +"<br><br>")
print(v2.neg())
print(" |-v2|="+v2.neg().length()+"<br><br>")
print(v1.plus(v2))
print(" |v1+v2|="+v1.plus(v2).length() +"<br><br>")
print(v1.minus(v2))
print(" |v1-v2|="+v1.minus(v2).length()+"<br><br>")

print("Angle of v1: v1.angle()="); print(v1.angle() +" deg<br><br>")
print("dot product of v1 and v2: v1.dot(v2)="); print(v1.dot(v2) +"<br><br>") ;
print("Angle between v1 and v2: v1.angle(v2)="); print(v1.angle(v2) +" deg<br><br>") ;
```

prints on the page the **results**:

```
v1(1, 2) |v1|=2.23606797749979
```

```
v2(3, 4) |v2|=5
```

```
(-v2)(-3, -4) |-v2|=5
```

```
v1+v2(4, 6) |v1+v2|=7.211102550927978
```

```
v1+(-v2)(-2, -2) |v1-v2|=2.8284271247461903
```

```
Angle of v1: v1.angle()=63.43494882292201 deg
```

```
dot product of v1 and v2: v1.dot(v2)=11
```

```
Angle between v1 and v2: v1.angle(v2)=10.304846468766044 deg
```

Note: You'll need to modify slightly the print function

Submission

Submit as attachment the augmented Vectors.js file as well as the corresponding Vectors.html one.