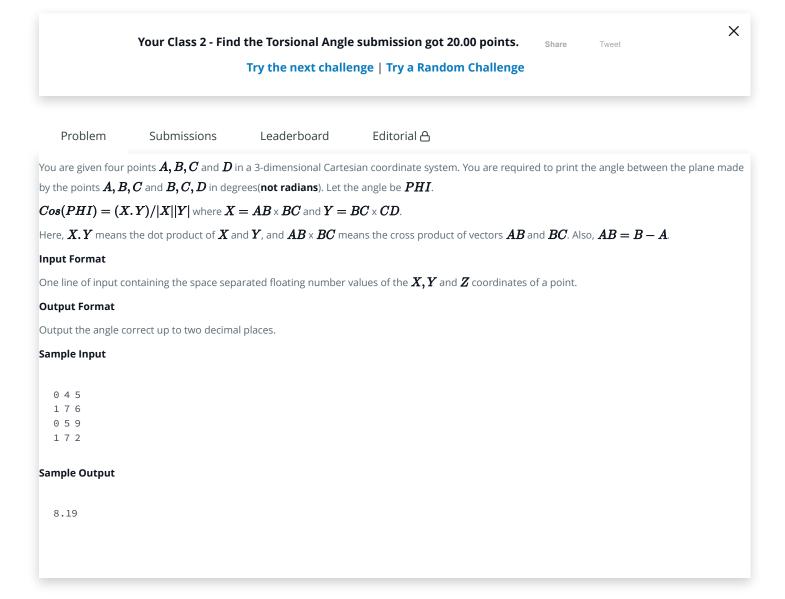
Class 2 - Find the Torsional Angle ☆





```
Change Theme
                                                                          Python 3
                                                                                                 9
        def __sub__(self, no):
             return Points((self.x - no.x),(self.y - no.y),(self.z - no.z))
10
11
12
        def dot(self, no):
13
             return (self.x * no.x)+(self.y * no.y)+(self.z * no.z)
14
15
         def cross(self, no):
16
             return Points((self.y * no.z)-(self.z * no.y),(self.z * no.x)-(self.x * no.z),
     (self.x * no.y)-(self.y * no.x))
17
         def absolute(self):
18
             return pow((self.x ** 2 + self.y ** 2 + self.z ** 2), 0.5)
```

```
21
     if __name__ == '__main__':
 22
          points = list()
 23
          for i in range(4):
 24
              a = list(map(float, input().split()))
 25
              points.append(a)
 26
 27
          a, b, c, d = Points(*points[0]), Points(*points[1]), Points(*points[2]), Points
      (*points[3])
 28
          x = (b - a).cross(c - b)
          y = (c - b).cross(d - c)
 29
 30
          angle = math.acos(x.dot(y) / (x.absolute() * y.absolute()))
 31
          print("%.2f" % math.degrees(angle))
 32
                                                                                                   Line: 21 Col: 27
1 Upload Code as File
                  ☐ Test against custom input
                                                                                     Run Code
                                                                                                   Submit Code
```

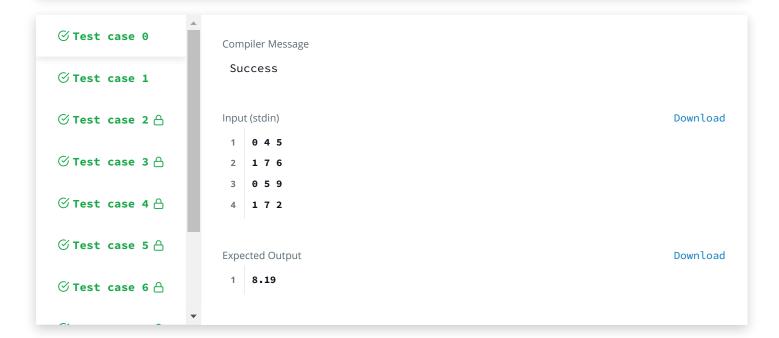
You have earned 20.00 points!

48/115 challenges solved.

42%







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