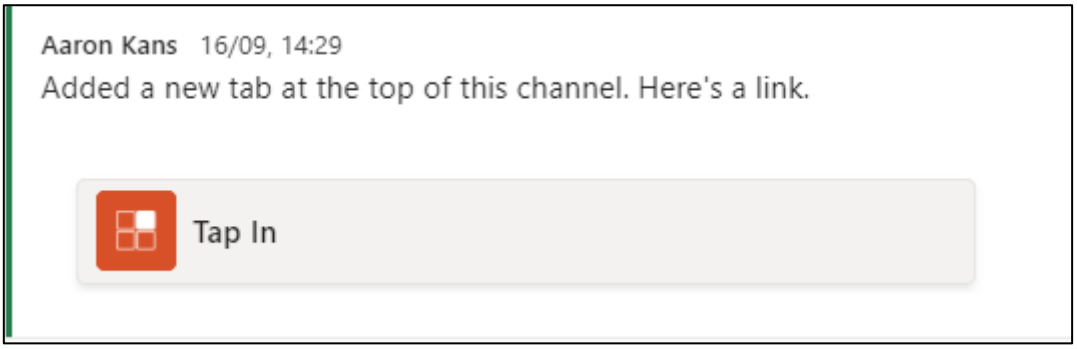
Before your lab session, make sure you have:

- **watched** the WEEK 3 lecture videos on the **CD/CN4001 Moodle Site** by clicking here
- **logged on** to the live lecture Q&A on **Monday 10-11am** via the **CD4001/CN4001 Teams** site by clicking here.
- When joining the Q&A on Teams, please make sure you click the **Tap-In** button at the top of the **General channel** at 10am (link here):



Then check your timetable to find out the day/time/location of your lab session.

If you have permission from your course leader to study remotely, follow these instructions to access your remote lab (Tuesday 4-6pm):

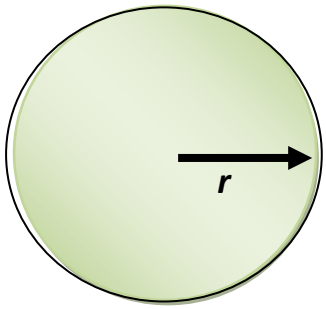
1. *Go to the ON-LINE LAB (Tue 4-6) channel on your **CN4001/CD4001 Software Development Microsoft Teams** site by clicking here.*
2. *Wait for your tutor to start the lab session. To join the session, click on the "**Join**" button that will appear when your tutor starts the session.*

JDoodle

To open the web-based Java IDE called **JDoodle** click here.

ASSESSED TASK: **4 marks**

This week's assessed task will focus on a program that calculates the **diameter** and **area** a circle, given its **radius (r)**.

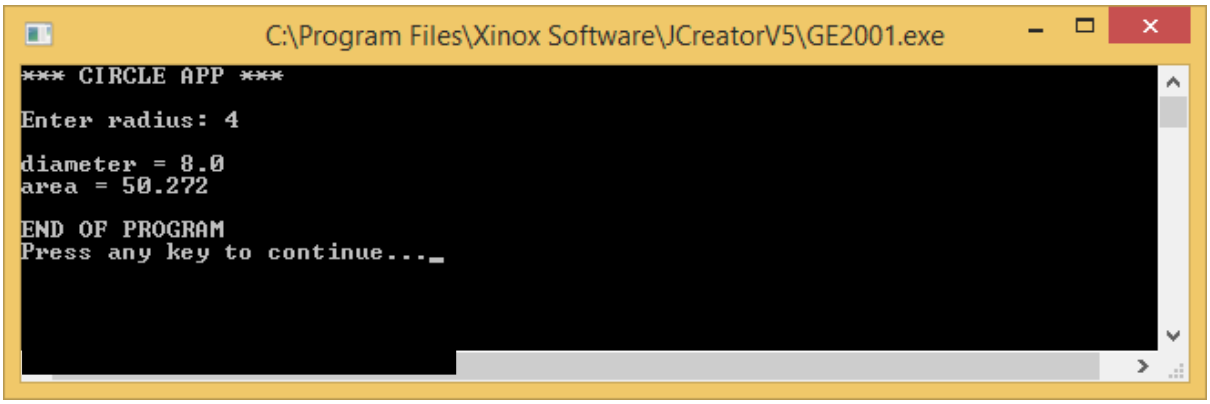


diameter = 2r

area = πr^2

where **π = 3.142**

Here is one possible program interaction:

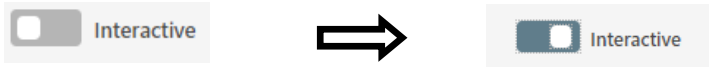


Now let's carry out the following tasks in JDoodle:

a) Delete the existing code in the main method, move the curly brackets so that they align and rename the class **CircleApp** as follows:

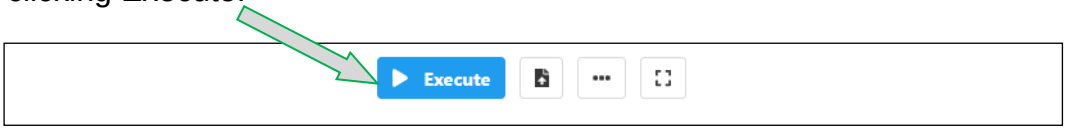
```
1  public class CircleApp
2  {
3      public static void main(String args[])
4      {
5
6      }
7  }
```

To allow for user input also slide the **Interactive** slider to the **on** position.



b) Declare all the necessary variables required for this program (remember the value of π is a **constant**) and a **Scanner** object (call it **sc**).

c) Write code to print a title such as (*** CIRCLE APP ***) and the final "END OF PROGRAM" message on the screen. Between these lines add a comment **"// CODE TO BE COMPLETED**" then execute your program by clicking Execute:



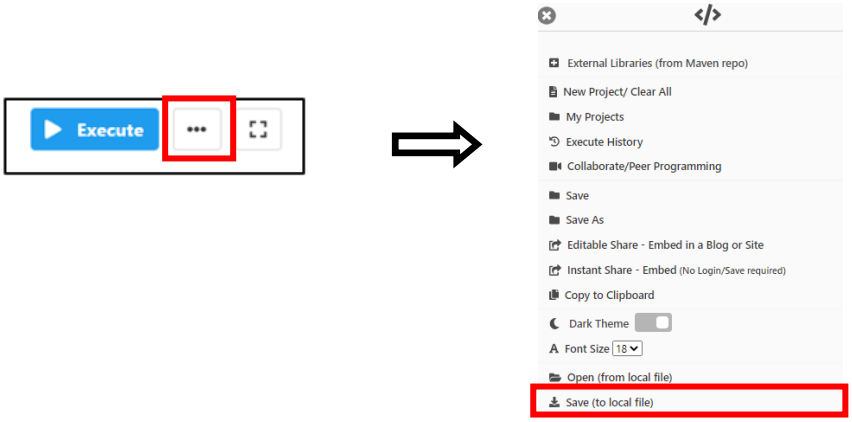
d) Replace the comment with code to ask the user for the **radius** of the circle and then enter the radius into a variable. *Run your program to make sure this is working correctly.*

e) Write code to calculate and then display the **diameter** of the circle.*Run your program to make sure this is working correctly*

f) Write code to calculate and then display the **area** of the circle.*Run your program to make sure this is working correctly*

g) Add some Javadoc comments at the top of this program.

h) Save the **CircleApp.java** file to your machine using the three dots next to the **Execute** button, then select **Save to local file.**



i) Upload the **CircleApp.java** file to **Moodle** via the appropriate **submission link**.