



INT Mini Project  
*Python*



# PROJECT REPORT

2022



## CLOCK ANGLE PROBLEM

# TEAM MEMBERS

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## About the Project

### Project 18

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The Project is a code to calculate the shorter angle between the hour and minute hand in an analog clock. The time should be given in hh:mm format in 24-hour notation

#### Stage 1.1

Using our previous knowledge of angles, we created a problem statement and fragmented it. A draft of the algorithm was written and the first part of the code was written. Neither bugs nor errors were encountered.

#### Stage 1.2

During the second part, the problem that we encountered was that of a negative angle. As soon as we input the time after 12, the angle came back negative, so we tweaked the algorithm and used the absolute function to fix it.





## Stage 2.1

We encountered the second problem when the angle was surpassing the 360-Degree mark. We got rid of it by tweaking the code again. After that our code was ready.

# Final Output

```
Time-Angle beta.py - Visual Studio Code
File Edit Selection View Go Run Terminal Help

Time-Angle beta.py 4 X
media > rakshit > AMBI Micro > Code > Python > INT Mini Project > Time-Angle beta.py > ...
rakshitambi7a, last month | 1 author (rakshitambi7a)

1 #Time-Angle beta
2 def calcAngle(h,m):
3     if (h < 0 or m < 0 or h > 23 or m > 60):          # validating the input
4
5         print('Wrong input')
6     if (h == 24):
7         h = 0
8     if (m == 60):
9         m = 0
10        h += 1;
11    if(h>12):
12        h = h-12;
13
14    hour_angle = 0.5 * (h * 60 + m) # Calculating the angles moved by hour and minute hands with reference to 12:00
15    minute_angle = 6 * m
16    angle =(hour_angle - minute_angle)      # Find the difference between two angles
17    c=abs(360-abs(angle))
18    angle = min(c, abs(angle))      # Return the smaller angle of two possible angles
19    return angle
20 h,m=map(int, input("Please enter the time ").split())
21 print('Angle ', calcAngle(h,m),"°")
22

PROBLEMS 16 OUTPUT DEBUG CONSOLE TERMINAL GITLENS

● rakshit@rakshit-VivoBook-15-ASUS-Laptop-X507UAR:~$ /bin/python3 "/media/rakshit/AMBI Micro/Code/Python/INT Mini Project/Time-Angle beta.py"
Please enter the time 15 00
Angle  90.0 °
● rakshit@rakshit-VivoBook-15-ASUS-Laptop-X507UAR:~$ /bin/python3 "/media/rakshit/AMBI Micro/Code/Python/INT Mini Project/Time-Angle beta.py"
Please enter the time 9 30
Angle  105.0 °
● rakshit@rakshit-VivoBook-15-ASUS-Laptop-X507UAR:~$ /bin/python3 "/media/rakshit/AMBI Micro/Code/Python/INT Mini Project/Time-Angle beta.py"
Please enter the time 1 15
Angle  52.5 °
```

# Acknowledgment

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We would like to thank Anurag Mishra Sir for the support and the guidance being provided to us throughout the course.

Thank You

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