



Vavuniya Campus of the University of Jaffna

Second Examination in Information and

Communication Technology - 2018

Second Semester - April/May 2020

ICT2272 Practical for Computer Graphics

Answer All Questions

Time Allowed : Three hours

Note: You may find the given figures in the Desktop folder ICT2272.

1. Write a Java program to perform each of the following tasks:

- (a) Implement the *Bresenham's circle algorithm* to draw a circle. [10%]
- (b) Construct an object as shown in Figure 1 using the circle drawing algorithm implemented in part1(a), where the radius r of the largest circle should be obtained by a *mouse event*.

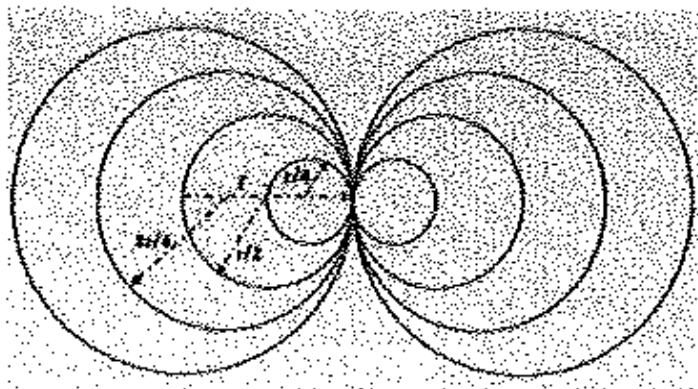


Figure 1

[30%]

2. Write a Java program to implement the DDA(Digital Differential Analyzer) Line drawing algorithm.

(a) Create an object as shown in Figure 2 using the DDA line drawing algorithm.

The properties of the objects Object 1 and Object 2 are given in Figure 3.

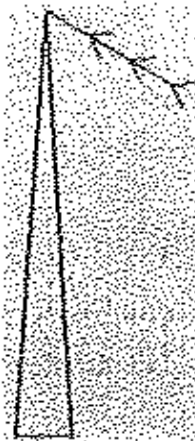
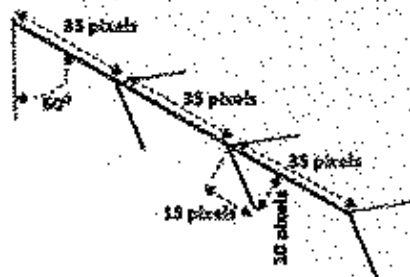


Figure 2



Object 1



Object 2

Figure 3

[20%]

[This question is continued on the next page]

- (b) Construct the compound object as shown in Figure 4 by using the appropriate transformation on the Object 2.

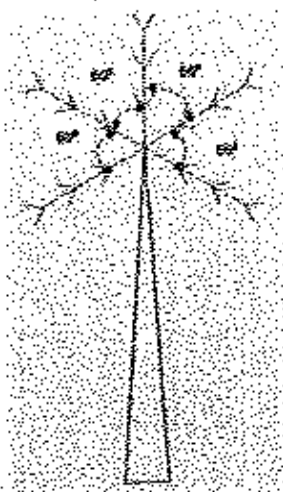


Figure 4

[10%]

- (c) Construct the objects as shown in Figure 5 by using the appropriate transformations on the compound object constructed in part 2(b), with the given properties:

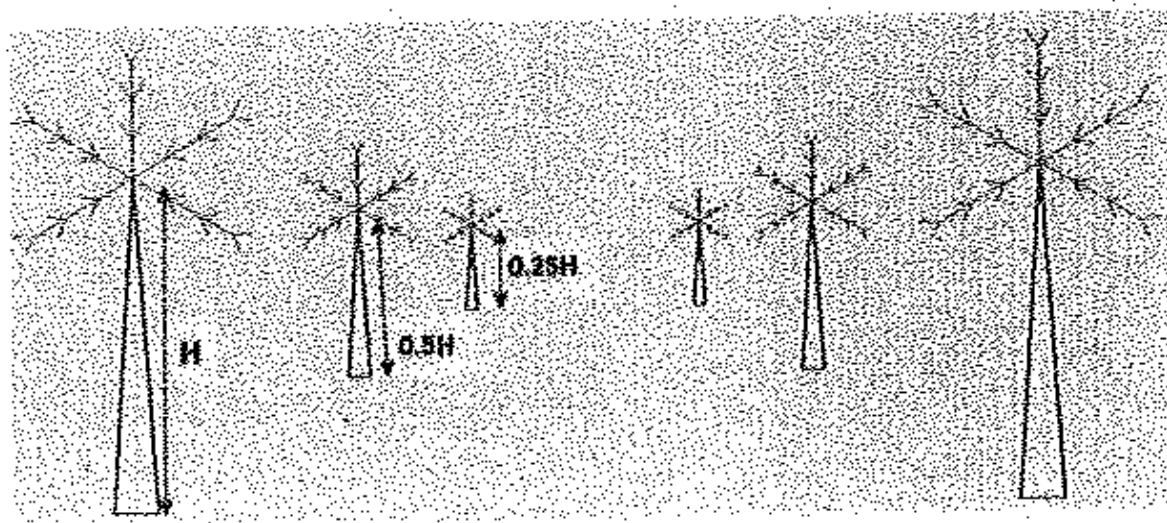


Figure 5

[30%]