

## Section C

10. a.

```
static double power(int a, int b){
    if (b==0) return 1;
    return a * power(a, --b);
}
```

b.

Finite Recursion	Infinite Recursion
Finite recursions terminate once the base case is met.	Infinite recursions never terminate as the base case generally does not exist or is never met.

11. a.

```
void find_attend() throws IOException {
    String emp;
    DataInputStream fi = new DataInputStream(new FileInputStream("Attend.txt"));
    try {
        emp = fi.readLine();
        if(fi.readInt()>80) System.out.println(emp);
    }
    catch (EOFException e){
        System.out.print("-----");
        fi.close();
    }
}
```

b. Three classes needed for text file creation:

- DataOutputStream
- FileOutputStream
- IOException abstract class

12. i.

Java API packages are application programming interface packages which provides different methods and classes thereby extending the functionality of a program.

ii.

A firewall can be hardware or software which prevents malicious traffic from entering or leaving endpoints and hosts. These also block and alert when a server or endpoint is being port scanned or hammered with directory traversal. Eg: Splunk

### **iii.**

Phishing is a technique whereby a malicious actor sends a link to a web page that looks identical to legitimate ones for a user to give in personal details or login credentials.

### **iv.**

Augmented reality masks only a part of the user's vision with computer generated media where there exists a marker or a tag. This thereby modifies only a section of the user's reality.

### **v.**

Virtual reality masks the whole vision and periphery of a user with computer generated media and "bring" the user to a different reality. This is mainly achieved using the help of a virtual reality headset.

Uses:

- Medical procedure training as well as deep insights of specific illnesses
- Virtual reality tours of places
- Product demonstrations