19) Write a java program to create an abstract class Bird. Write abstract methods fly() & makeSound(). Create subclasses Eagle & Hawk that extends the Bird class & implement the respective methods to describe how each bird flies & makes a sound.

→ abstract class Bird {
    abstract void fly();
    abstract void makeSound();
}

class Eagle Extends Bird {
    void fly() {
        System.out.println("Eagle soars high in the sky.");
    }
    void makeSound() {
        System.out.println("Eagle makes screeching sound.");
    }
}

Class Hawk extends Bird {
    void fly() {
        System.out.println("Hawk glides in the air.");
    }

```
void makeSound(){
    System.out.println("Hawk glides in the air.");
}
}
```

```
class BirdMain{
    public static void main(String[] args)
{ Eagle e=new Eagle();
    e.fly();
    e.makeSound();
    Hawk h=new Hawk();
    h.fly();
    h.makeSound();
}
}
```

Out: Eagle soars high in the sky.
Eagle makes screeching sound.
Hawk glides in the air
Hawk emits a distinct cry.

1) Demonstrate various String Constructor with Proper java Programs.
2) Demonstrate String length, String literals, String Concat.

→ public class StringMain{
    Public static void main(String[] args){
    // constructors.

String s = new String();
String s2 = new String("Hello Java");
System.out.println("s2 = " + s2);

char mychars[] = {'J', 'a', 'v', 'a'};
String s3 = new String(mychars);
System.out.println("s3 = " + s3);

String s4 = new String(mychars, offset:0, count: 2);
System.out.println("s4 = " + s4);

byte b[] = {65, 66, 67, 68};
String s5 = new String(b);
System.out.println("s5 = " + s5);

// String length, String literal, String Concat.

```
String name = "Shree Sanketh Kulkarni";
System.out.println("displaying string length
");
System.out.println( length = " + name. length
());
System.
system.out. println ("displaying concati
nation of string");

String branch = "Computer Science
Engineering";
String details = name + branch;

System.out.println(" concatinated string
s = " + details);
}

}
```

Output: s2 = Hello Java
s3 = Java
s4 = jav
s5 = ABCD

displaying string length
length = 22

displaying concatination of string.

Concatinated string = Shree Sanketh
Kulkarni Computer Science Engineering

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