TTTK1143 REKABENTUK ATURCARA & PENYELESAIAN MASALAH

Semester 2 Sesi 2019/2020

ASSIGNMENT 2

NAME :	HAZIQ HAFIZIN BIN KAMARUL HALIM
MATRIC NUMBER :	A176454
TUTORIAL GROUP :	11/12

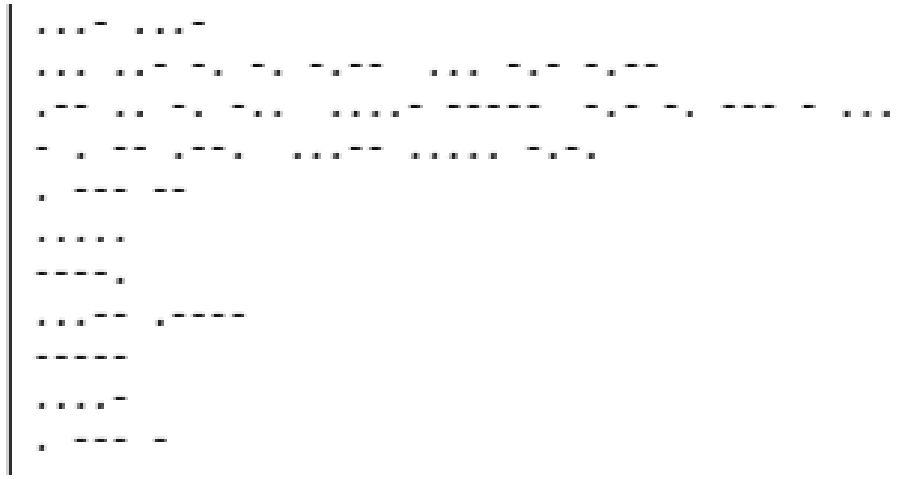
Table of Content

1. Data Structures

Basically my program use certain data structures in dits-dahs problem:

- Queue: Used to store the data and extract the data using first in first out order.(Used in part 1 and 2)
- List: Used to store the data and extract the data to count the data insert.(Used in part 1 and 2)
- Tree: Used to sort the letter and morse code in certain traversal.(Used in part 3)

2. Morse Code after Insert the letter



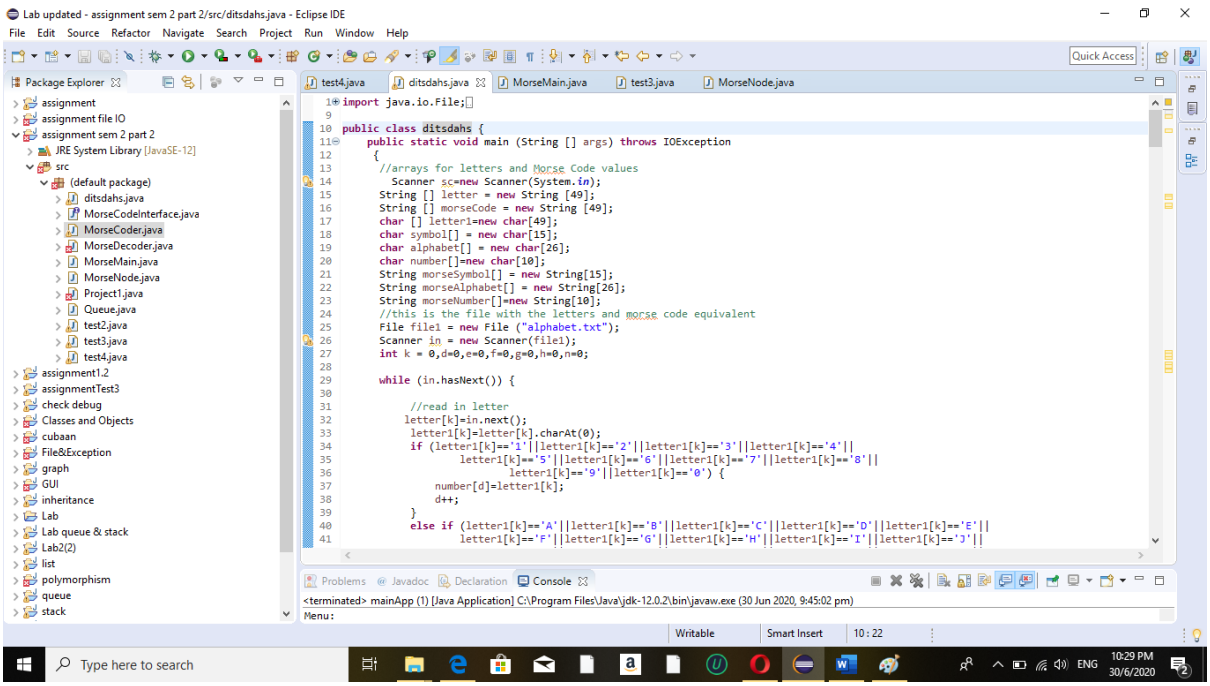
3. List of Class Used

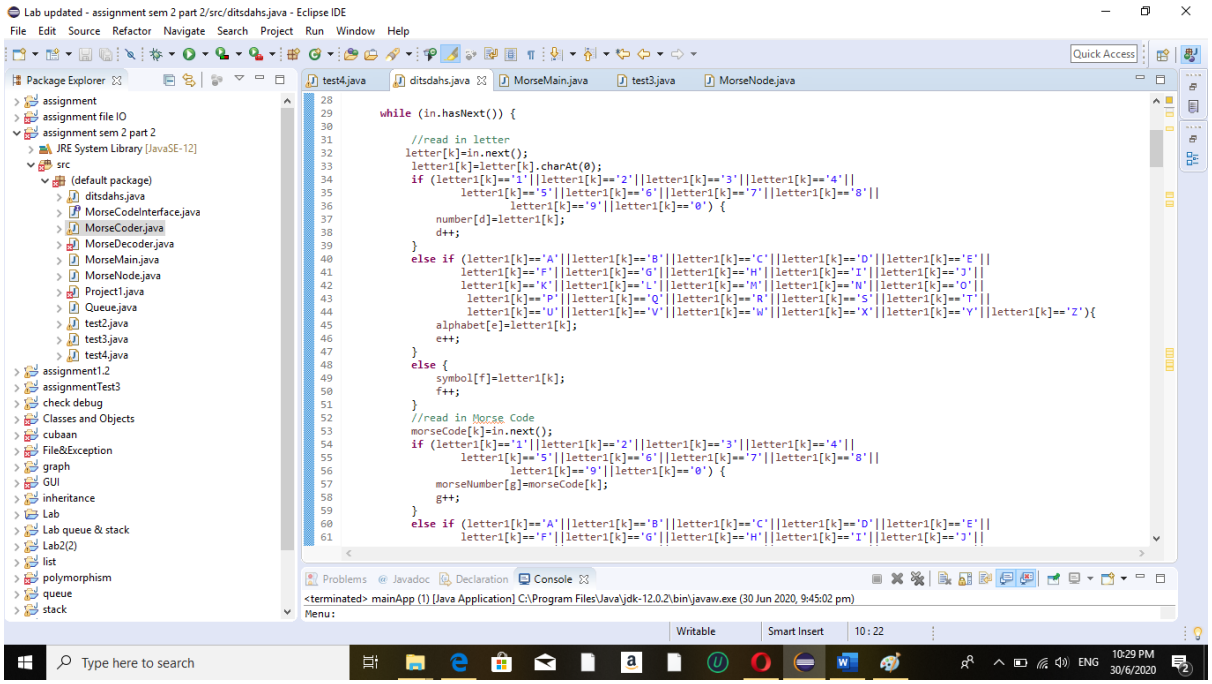
Class	Description
Queue - Needed in this program so that we can use queue data structure.	Attribute: -n: int (to count element on queue) -first: Node (beginning of queue) -last: Node (end of queue) Method: +Queue() +isEmpty(): boolean +size(): int +length(): int +peek(): Item +enqueue(Item item): void +dequeue(): Item +toSting(): String +iterator(): Iterator<Item>
MorseCoder - Used to put the morse and letter in tree	Attribute: -root: MorseNode -num: int Method: +MorseCoder() +reeadTreeInfo(): void (used to insert data) +nextNode(MorseNode current, char dotOrDash) : MorseNode +add(String mcode, char letter, int num1) : void +inOrderPrint(): void +printInorder(MorseNode current): void
MorseCodeInterface - Interface for MorseCoder class	Attribute: Method: +inOrderPrint(): void
MorseNode - Use for set and get the morse code and letter in MorseCoder class	Attribute: -letter: char -morse: String -num: int -left: MorseNode -right: MorseNode -EMPTY: static final char Method: +MorseNode() +getLetter(): char +setLetter(char letter): void +getMorse(): String +setMorse(String morse): void +getNum(): int +setNum(int num): void +getLeft(): MorseNode +setLeft(MorseNode left): void +getRight(): MorseNode +setRight(MorseNode right): void

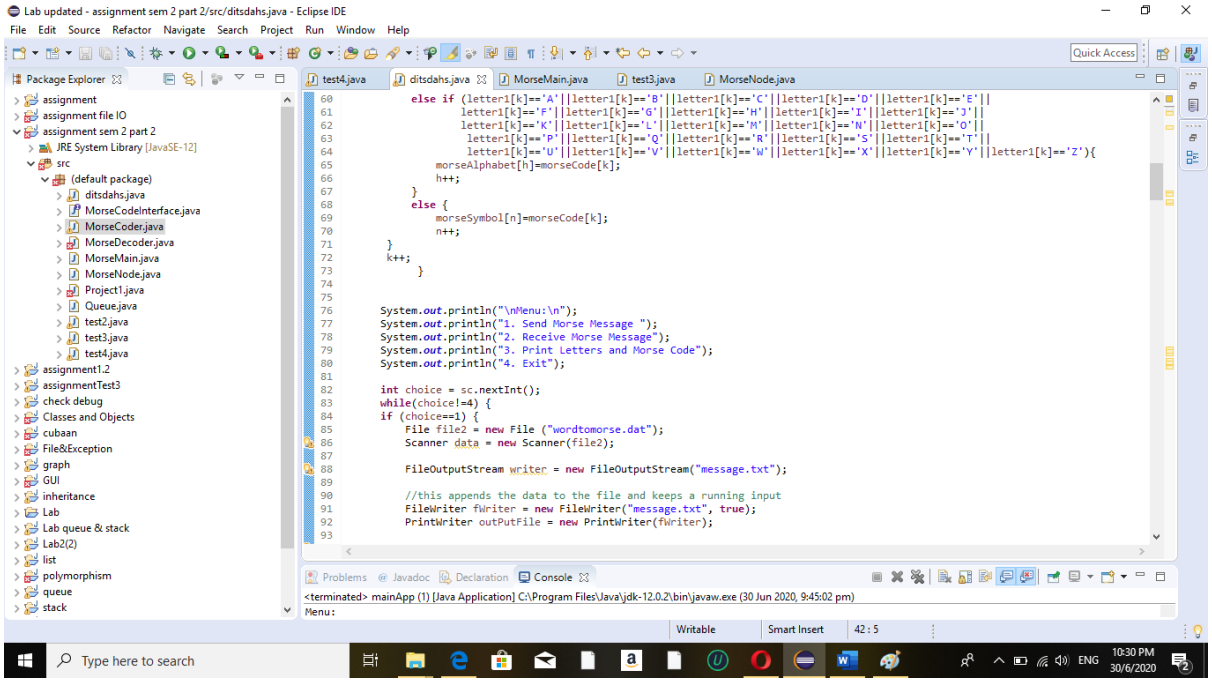
4. Algorithm

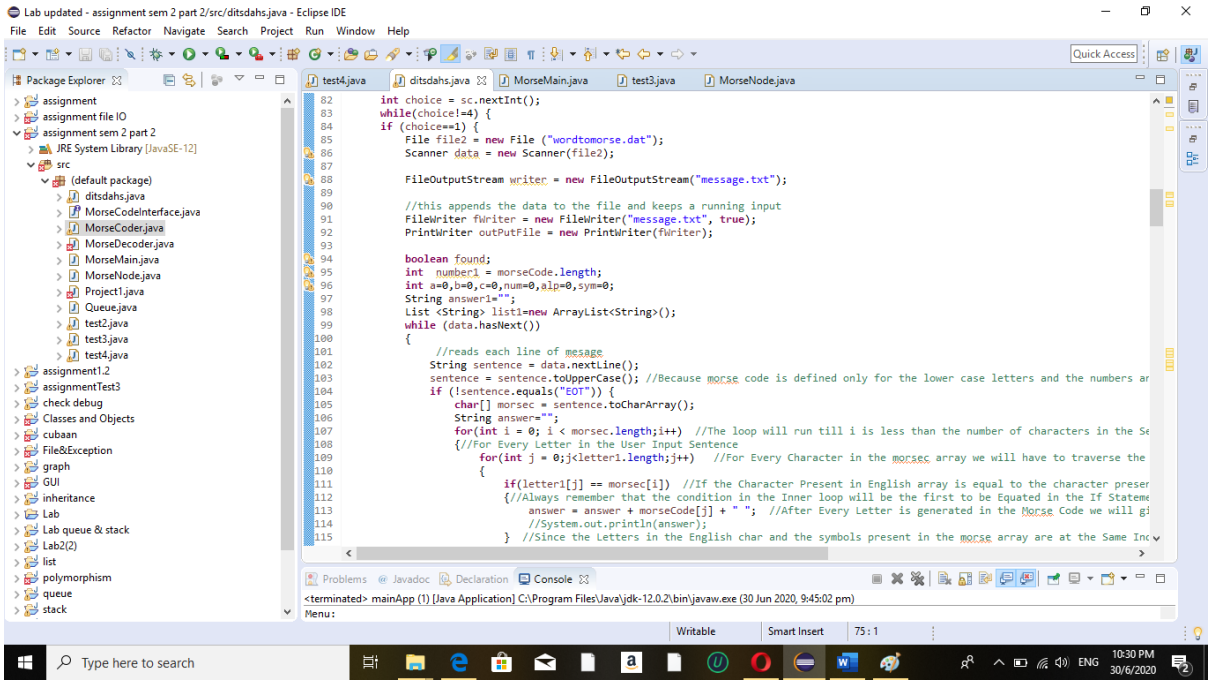
i. Main method

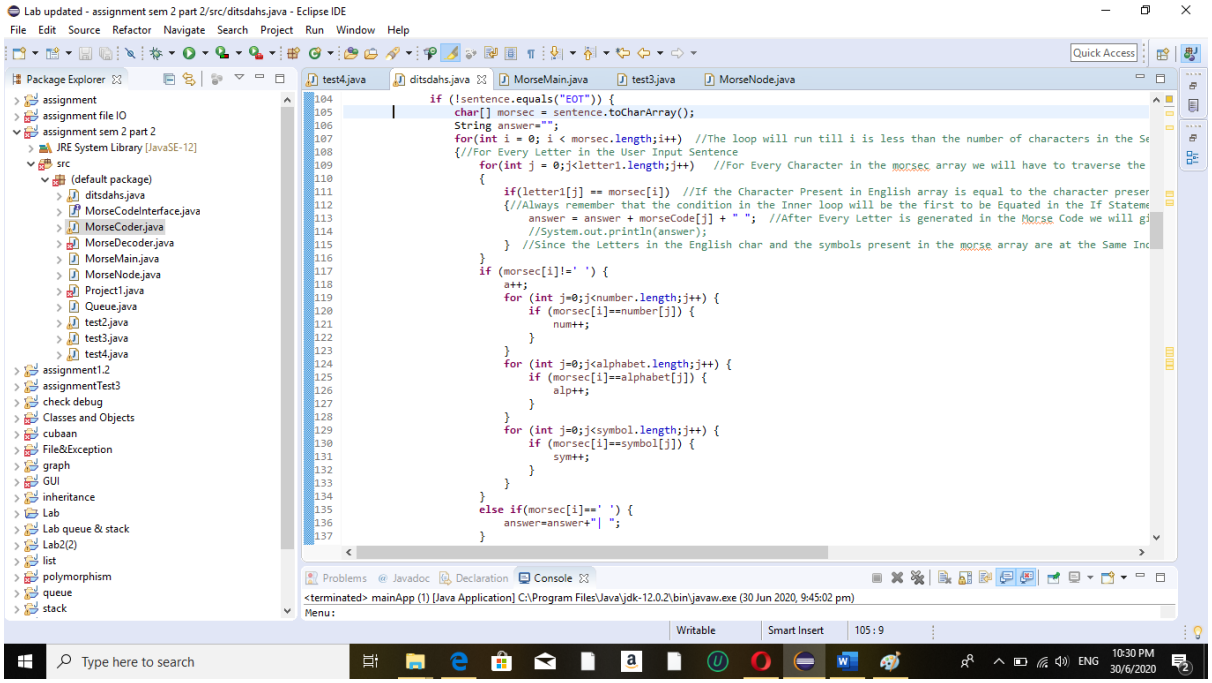
- If your choice is 1, then it will print out the encoded message.
- If your choice is 2, then it will print out decode message.
- If your choice is 3, then it will print out all letter and morse code in certain traversal.
- If your choice is 4, it will print out bye dits-dahs.

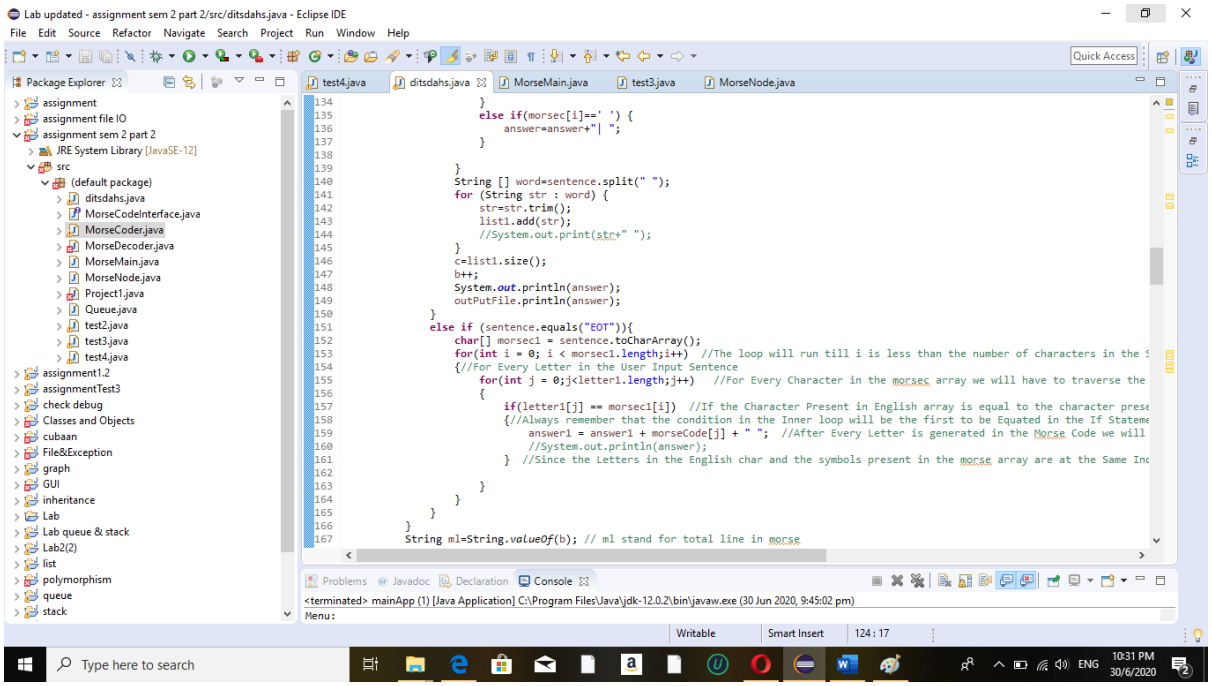


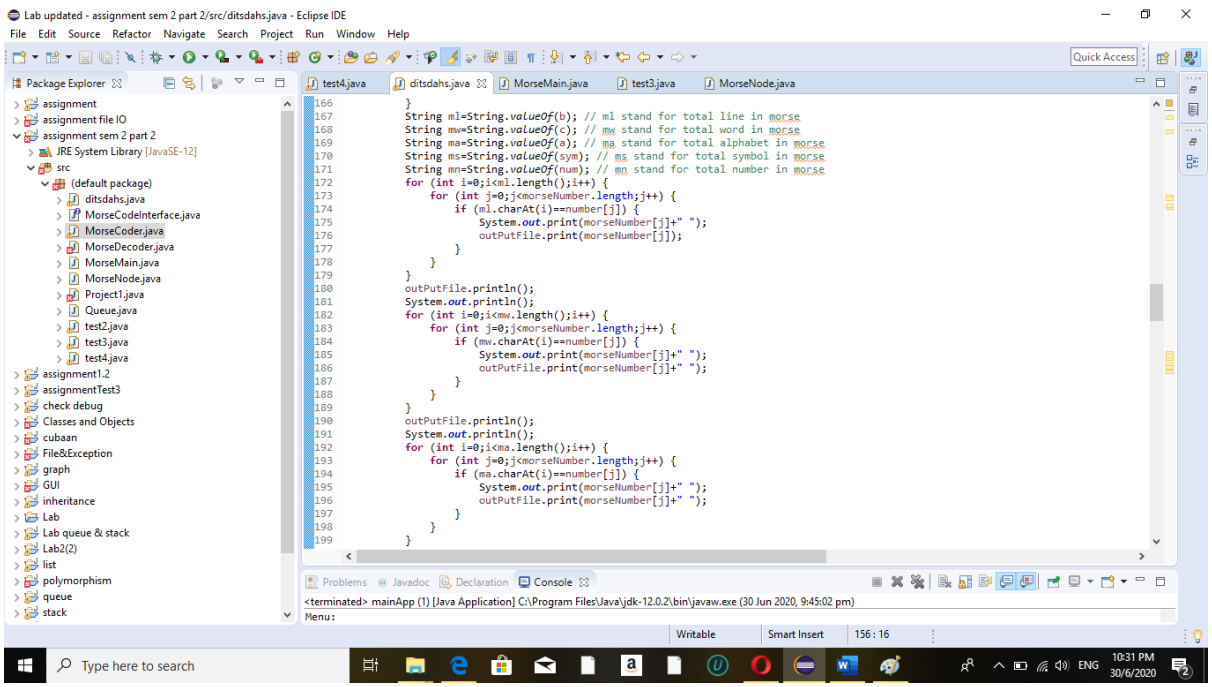

Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
28 while (in.hasNext()) {
29
30 //read in letter
31 letter[k]=in.next();
32 letter1[k]=letter[k].charAt(0);
33 if (letter1[k]=='1'||letter1[k]=='2'||letter1[k]=='3'||letter1[k]=='4'||
34 letter1[k]=='5'||letter1[k]=='6'||letter1[k]=='7'||letter1[k]=='8'||
35 letter1[k]=='9'||letter1[k]=='0') {
36 number[d]=letter1[k];
37 d++;
38 }
39 else if (letter1[k]=='A'||letter1[k]=='B'||letter1[k]=='C'||letter1[k]=='D'||letter1[k]=='E'||
40 letter1[k]=='F'||letter1[k]=='G'||letter1[k]=='H'||letter1[k]=='I'||letter1[k]=='J'||
41 letter1[k]=='K'||letter1[k]=='L'||letter1[k]=='M'||letter1[k]=='N'||letter1[k]=='O'||
42 letter1[k]=='P'||letter1[k]=='Q'||letter1[k]=='R'||letter1[k]=='S'||letter1[k]=='T'||
43 letter1[k]=='U'||letter1[k]=='V'||letter1[k]=='W'||letter1[k]=='X'||letter1[k]=='Y'||letter1[k]=='Z'){
44 alphabet[e]=letter1[k];
45 e++;
46 }
47 else {
48 symbol[f]=letter1[k];
49 f++;
50 }
51 //read in Morse Code
52 morseCode[k]=in.next();
53 if (letter1[k]=='1'||letter1[k]=='2'||letter1[k]=='3'||letter1[k]=='4'||
54 letter1[k]=='5'||letter1[k]=='6'||letter1[k]=='7'||letter1[k]=='8'||
55 letter1[k]=='9'||letter1[k]=='0') {
56 morseNumber[g]=morseCode[k];
57 g++;
58 }
59 else if (letter1[k]=='A'||letter1[k]=='B'||letter1[k]=='C'||letter1[k]=='D'||letter1[k]=='E'||
60 letter1[k]=='F'||letter1[k]=='G'||letter1[k]=='H'||letter1[k]=='I'||letter1[k]=='J'||
61
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable
Smart Insert
10 : 22
Type here to search
ENG
10:29 PM
30/6/2020

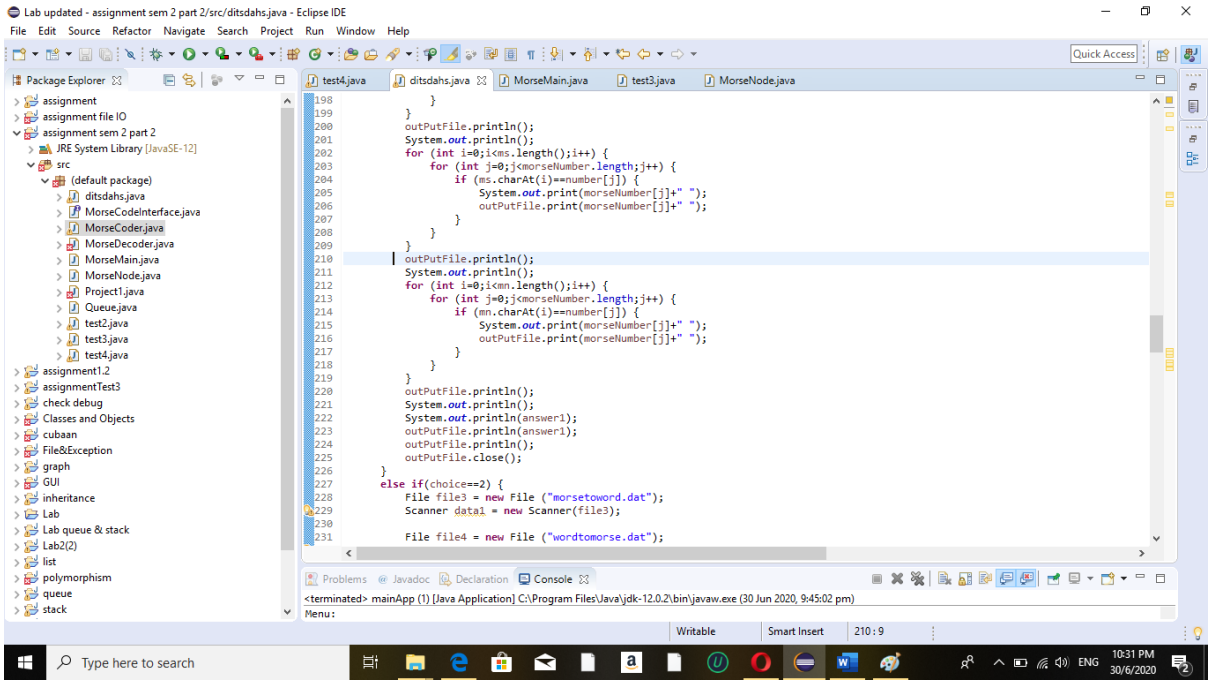

Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
60 else if (letter1[k]=='A'||letter1[k]=='B'||letter1[k]=='C'||letter1[k]=='D'||letter1[k]=='E'||
61 letter1[k]=='F'||letter1[k]=='G'||letter1[k]=='H'||letter1[k]=='I'||letter1[k]=='J'||
62 letter1[k]=='K'||letter1[k]=='L'||letter1[k]=='M'||letter1[k]=='N'||letter1[k]=='O'||
63 letter1[k]=='P'||letter1[k]=='Q'||letter1[k]=='R'||letter1[k]=='S'||letter1[k]=='T'||
64 letter1[k]=='U'||letter1[k]=='V'||letter1[k]=='W'||letter1[k]=='X'||letter1[k]=='Y'||letter1[k]=='Z'){
65 morseAlphabet[h]=morseCode[k];
66 h++;
67 }
68 else {
69 morseSymbol[n]=morseCode[k];
70 n++;
71 }
72 k++;
73 }
74
75
76 System.out.println("\nMenu:\n");
77 System.out.println("1. Send Morse Message ");
78 System.out.println("2. Receive Morse Message");
79 System.out.println("3. Print Letters and Morse Code");
80 System.out.println("4. Exit");
81
82 int choice = sc.nextInt();
83 while(choice!=4) {
84 if (choice==1) {
85 File file2 = new File ("wordtomorse.dat");
86 Scanner data = new Scanner(file2);
87
88 FileOutputStream writer = new FileOutputStream("message.txt");
89
90 //this appends the data to the file and keeps a running input
91 FileWriter fWriter = new FileWriter("message.txt", true);
92 PrintWriter outPutFile = new PrintWriter(fWriter);
93
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable
Smart Insert
42 : 5
Type here to search
ENG
10:30 PM
30/6/2020

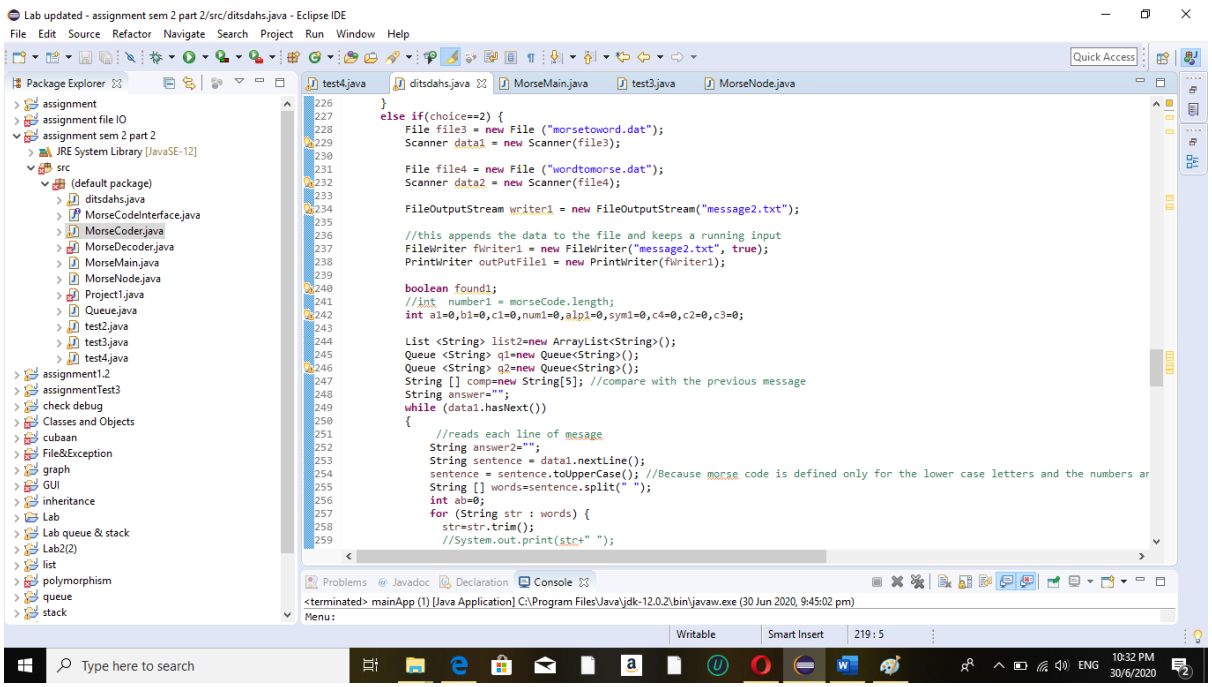

Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
int choice = sc.nextInt();
while(choice!=4) {
if (choice==1) {
File file2 = new File ("wordtomorse.dat");
Scanner data = new Scanner(file2);
FileOutputStream writer = new FileOutputStream("message.txt");
//this appends the data to the file and keeps a running input
FileWriter fWriter = new FileWriter("message.txt", true);
PrintWriter outPutFile = new PrintWriter(fWriter);
boolean found;
int number1 = morseCode.length;
int a=0,b=0,c=0,num=0,alp=0,sym=0;
String answer1="";
List <String> list1=new ArrayList<String>();
while (data.hasNext())
{
//reads each line of mesage
String sentence = data.nextLine();
sentence = sentence.toUpperCase(); //Because morse code is defined only for the lower case letters and the numbers ar
if (!sentence.equals("EOT")) {
char[] morsec = sentence.toCharArray();
String answer="";
for(int i = 0; i < morsec.length;i++) //The loop will run till i is less than the number of characters in the Se
{//For Every Letter in the User Input Sentence
for(int j = 0;j<letter1.length;j++) //For Every Character in the morsec array we will have to traverse the
{
if(letter1[j] == morsec[i]) //If the Character Present in English array is equal to the character preser
{//Always remember that the condition in the Inner loop will be the first to be Equated in the If Stateme
answer = answer + morseCode[j] + " "; //After Every Letter is generated in the Morse Code we will gi
//System.out.println(answer);
} //Since the Letters in the English char and the symbols present in the morse array are at the Same Inc
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable
Smart Insert
75 : 1
Type here to search
ENG
10:30 PM
30/6/2020

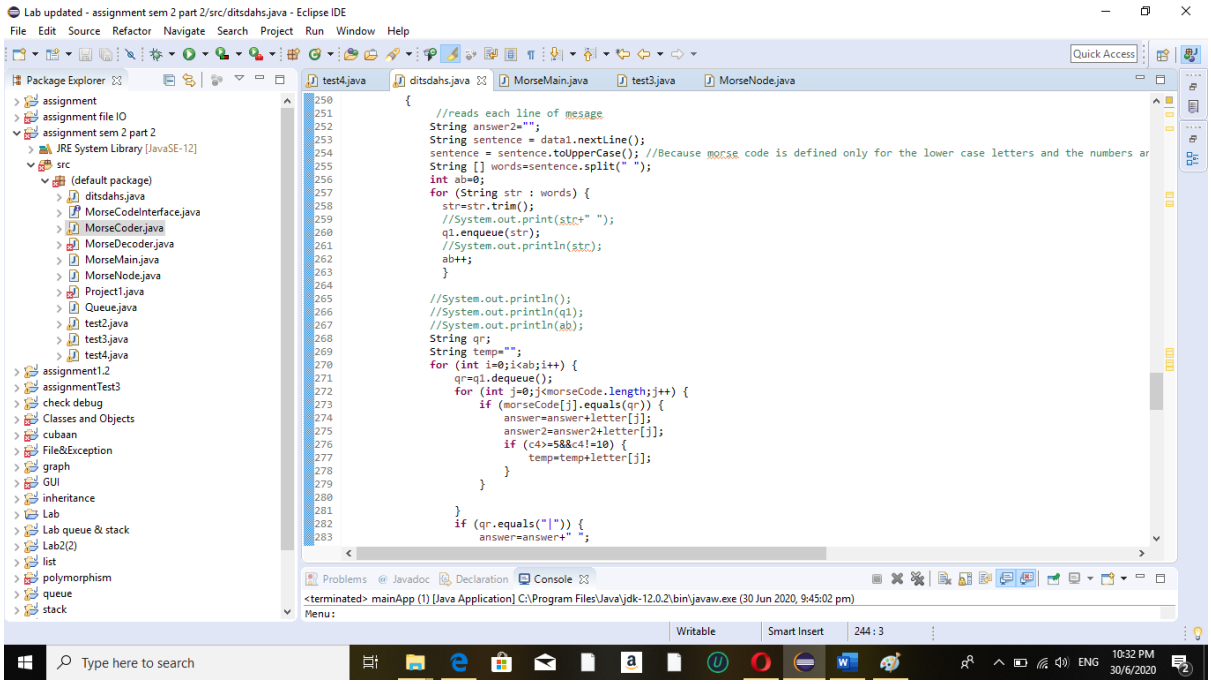

Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
if (!sentence.equals("EOT")) {
char[] morsec = sentence.toCharArray();
String answer="";
for(int i = 0; i < morsec.length;i++) //The loop will run till i is less than the number of characters in the Se
{//For Every Letter in the User Input Sentence
for(int j = 0;j<letter1.length;j++) //For Every Character in the morsec array we will have to traverse the
{
if(letter1[j] == morsec[i]) //If the Character Present in English array is equal to the character preser
{//Always remember that the condition in the Inner loop will be the first to be Equated in the If Stateme
answer = answer + morseCode[j] + " "; //After Every Letter is generated in the Morse Code we will gi
//System.out.println(answer);
} //Since the Letters in the English char and the symbols present in the morse array are at the Same Inc
}
if (morsec[i]!=' ') {
a++;
for (int j=0;j<number.length;j++) {
if (morsec[i]==number[j]) {
num++;
}
}
for (int j=0;j<alphabet.length;j++) {
if (morsec[i]==alphabet[j]) {
alp++;
}
}
for (int j=0;j<symbol.length;j++) {
if (morsec[i]==symbol[j]) {
sym++;
}
}
}
else if(morsec[i]==' ') {
answer=answer+"| ";
}
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable
Smart Insert
105 : 9
Type here to search
ENG
10:30 PM
30/6/2020

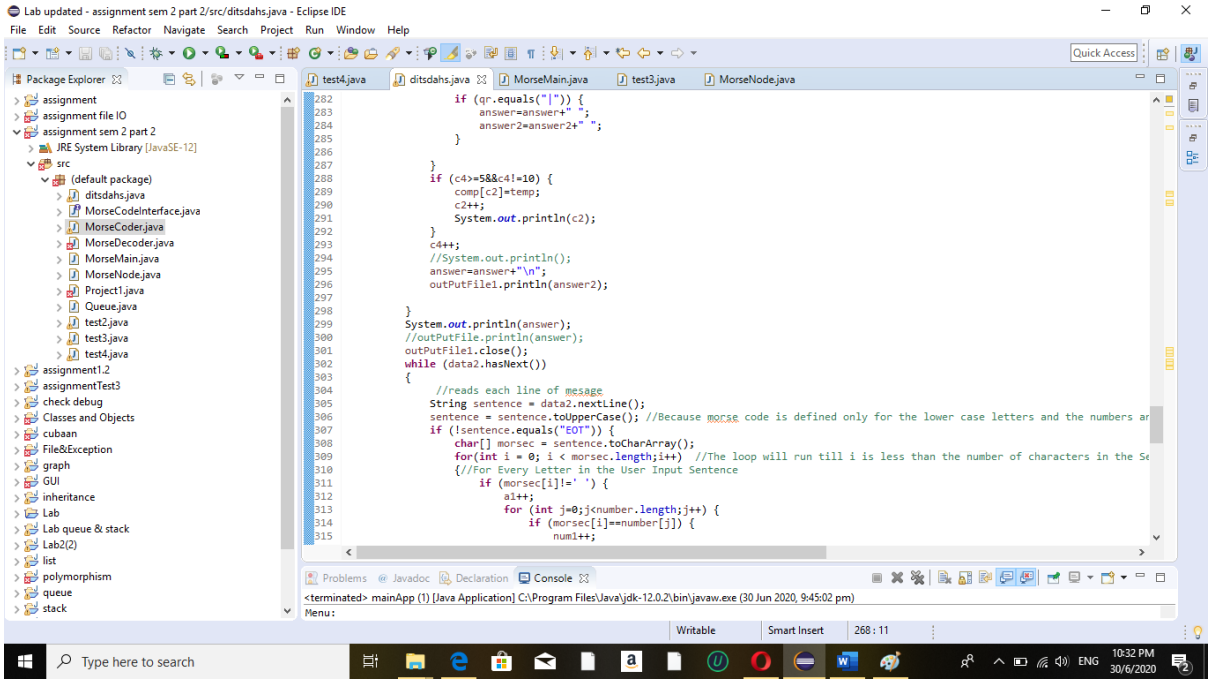

Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
Problems
Javadoc
Declaration
Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable
Smart Insert
124 : 17
Type here to search
ENG
10:31 PM
30/6/2020

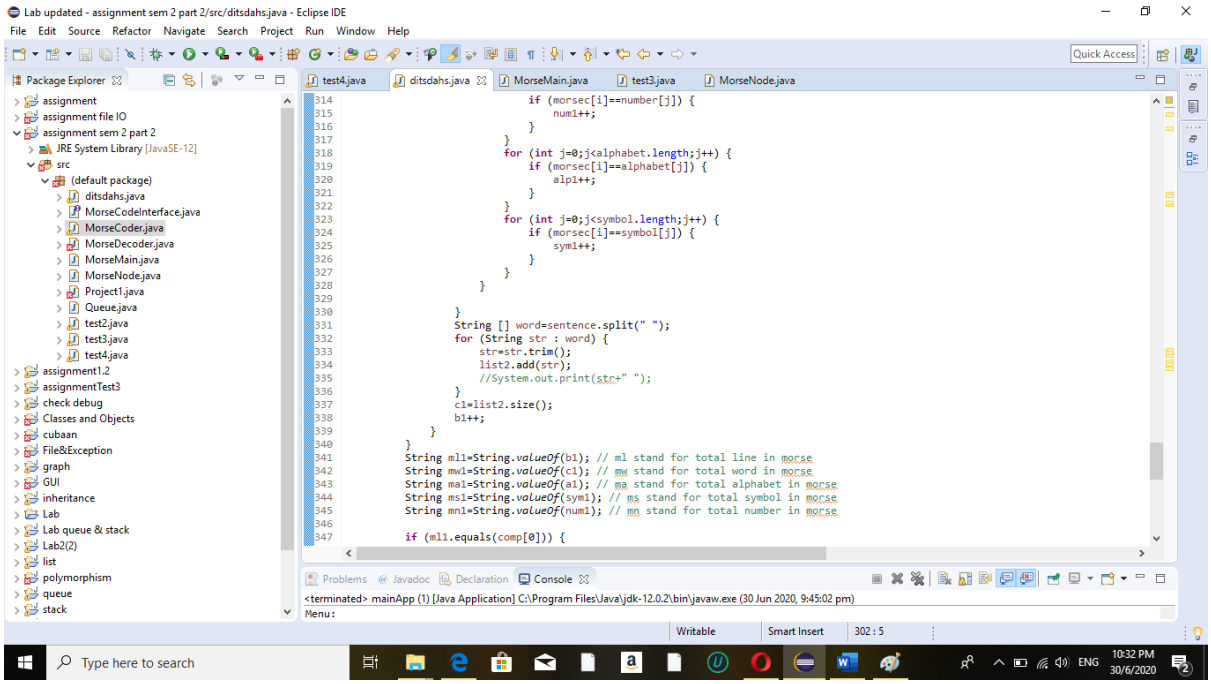

Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
Problems
Javadoc
Declaration
Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable
Smart Insert
156 : 16
Type here to search
ENG
10:31 PM
30/6/2020

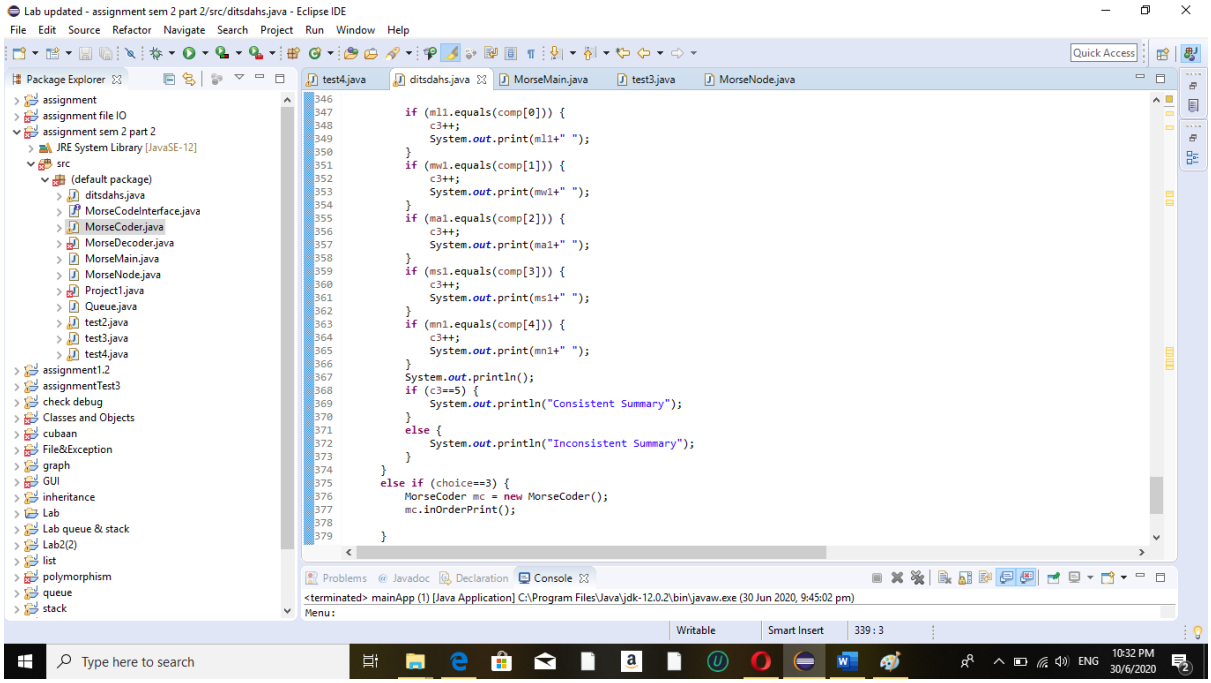

Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
198 }
199 }
200 outPutFile.println();
201 System.out.println();
202 for (int i=0;i<ms.length();i++) {
203 for (int j=0;j<morseNumber.length;j++) {
204 if (ms.charAt(i)==number[j]) {
205 System.out.print(morseNumber[j]+" ");
206 outPutFile.print(morseNumber[j]+" ");
207 }
208 }
209 }
210 outPutFile.println();
211 System.out.println();
212 for (int i=0;i<mn.length();i++) {
213 for (int j=0;j<morseNumber.length;j++) {
214 if (mn.charAt(i)==number[j]) {
215 System.out.print(morseNumber[j]+" ");
216 outPutFile.print(morseNumber[j]+" ");
217 }
218 }
219 }
220 outPutFile.println();
221 System.out.println();
222 System.out.println(answer1);
223 outPutFile.println(answer1);
224 outPutFile.println();
225 outPutFile.close();
226 }
227 else if(choice==2) {
228 File file3 = new File ("morsetoword.dat");
229 Scanner data1 = new Scanner(file3);
230
231 File file4 = new File ("wordtomorse.dat");
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable
Smart Insert
210 : 9
Type here to search
ENG
10:31 PM
30/6/2020

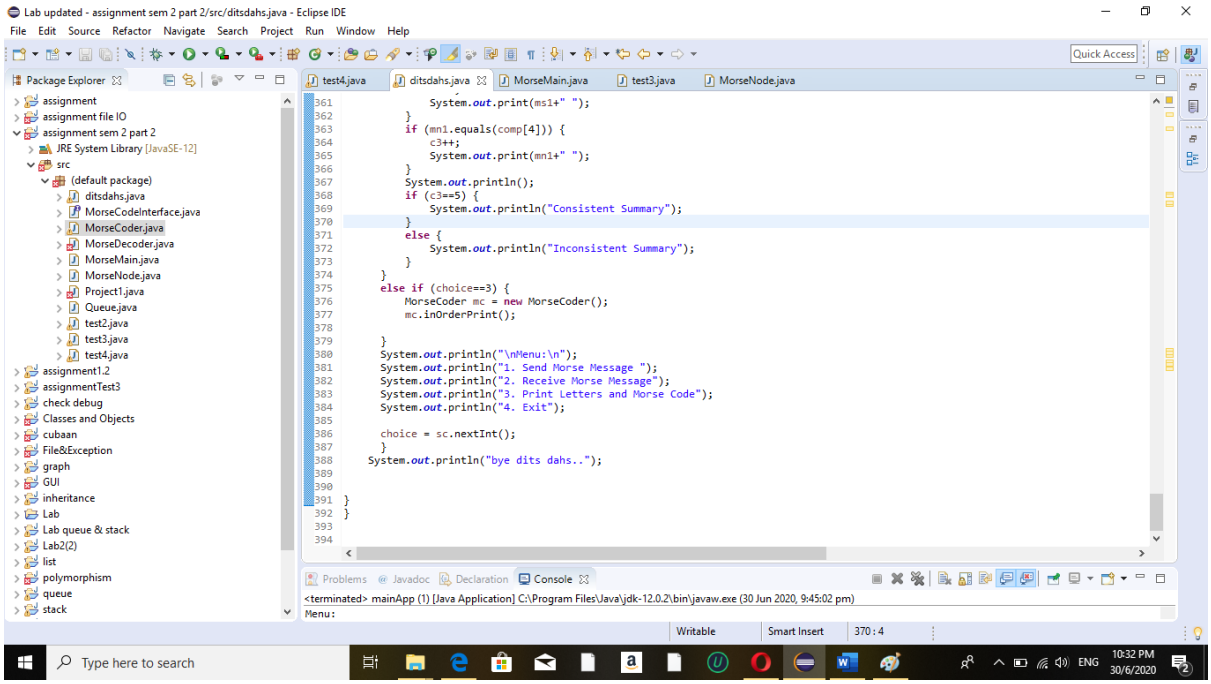

Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
226 }
227 else if(choice==2) {
228 File file3 = new File ("morsetoword.dat");
229 Scanner data1 = new Scanner(file3);
230
231 File file4 = new File ("wordtomorse.dat");
232 Scanner data2 = new Scanner(file4);
233
234 FileOutputStream writer1 = new FileOutputStream("message2.txt");
235
236 //this appends the data to the file and keeps a running input
237 FileWriter fWriter1 = new FileWriter("message2.txt", true);
238 PrintWriter outPutFile1 = new PrintWriter(fWriter1);
239
240 boolean found1;
241 //int number1 = morseCode.length;
242 int a1=0,b1=0,c1=0,num1=0,alp1=0,sym1=0,c4=0,c2=0,c3=0;
243
244 List <String> list2=new ArrayList<String>();
245 Queue <String> q1=new Queue<String>();
246 Queue <String> q2=new Queue<String>();
247 String [] comp=new String[5]; //compare with the previous message
248 String answer="";
249 while (data1.hasNext())
250 {
251 //reads each line of mesage
252 String answer2="";
253 String sentence = data1.nextLine();
254 sentence = sentence.toUpperCase(); //Because morse code is defined only for the lower case letters and the numbers ar
255 String [] words=sentence.split(" ");
256 int ab=0;
257 for (String str : words) {
258 str=str.trim();
259 //System.out.print(str+" ");
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable
Smart Insert
219 : 5
Type here to search
ENG
10:32 PM
30/6/2020


Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
{
//reads each line of mesage
String answer2="";
String sentence = data1.nextLine();
sentence = sentence.toUpperCase(); //Because morse code is defined only for the lower case letters and the numbers ar
String [] words=sentence.split(" ");
int ab=0;
for (String str : words) {
str=str.trim();
//System.out.print(str+" ");
q1.enqueue(str);
//System.out.println(str);
ab++;
}
//System.out.println();
//System.out.println(q1);
//System.out.println(ab);
String qr;
String temp="";
for (int i=0;i<ab;i++) {
qr=q1.dequeue();
for (int j=0;j<morseCode.length;j++) {
if (morseCode[j].equals(qr)) {
answer=answer+letter[j];
answer2=answer2+letter[j];
if (c4>=5&&c4!=10) {
temp=temp+letter[j];
}
}
}
if (qr.equals("|")) {
answer=answer+" ";
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable
Smart Insert
244 : 3
Type here to search
ENG
10:32 PM
30/6/2020


Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
if (qr.equals("|")) {
answer=answer+" ";
answer2=answer2+" ";
}
}
if (c4>=5&&c4!=10) {
comp[c2]=temp;
c2++;
System.out.println(c2);
}
c4++;
//System.out.println();
answer=answer+"\n";
outPutFile1.println(answer2);
}
System.out.println(answer);
//outPutFile.println(answer);
outPutFile1.close();
while (data2.hasNext())
{
//reads each line of mesage
String sentence = data2.nextLine();
sentence = sentence.toUpperCase(); //Because morse code is defined only for the lower case letters and the numbers ar
if (!sentence.equals("EOT")) {
char[] morsec = sentence.toCharArray();
for(int i = 0; i < morsec.length;i++) //The loop will run till i is less than the number of characters in the Se
{//For Every Letter in the User Input Sentence
if (morsec[i]!=' ') {
a1++;
for (int j=0;j<number.length;j++) {
if (morsec[i]==number[j]) {
num1++;
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable
Smart Insert
268 : 11
Type here to search
ENG
10:32 PM
30/6/2020

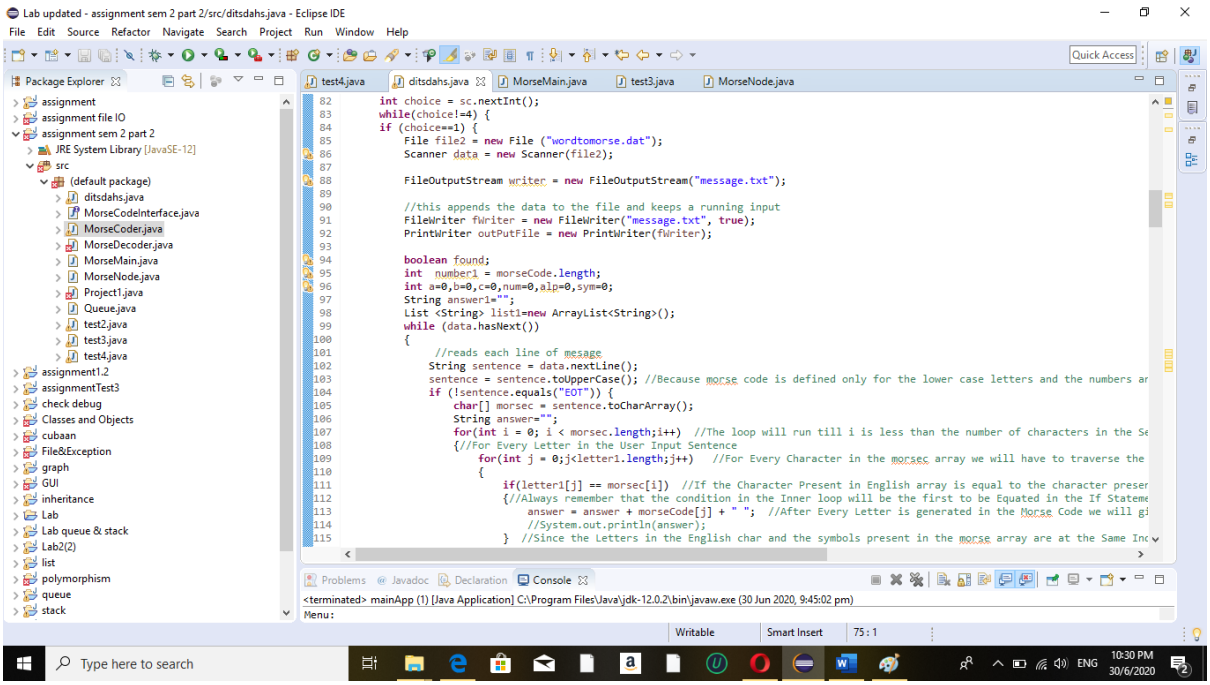

Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
if (morsec[i]==number[j]) {
num1++;
}
}
for (int j=0;j<alphabet.length;j++) {
if (morsec[i]==alphabet[j]) {
alp1++;
}
}
for (int j=0;j<symbol.length;j++) {
if (morsec[i]==symbol[j]) {
sym1++;
}
}
}
}
String [] word=sentence.split(" ");
for (String str : word) {
str=str.trim();
list2.add(str);
//System.out.print(str+" ");
}
c1=list2.size();
b1++;
}
}
String ml1=String.valueOf(b1); // ml stand for total line in morse
String mw1=String.valueOf(c1); // mw stand for total word in morse
String ma1=String.valueOf(a1); // ma stand for total alphabet in morse
String ms1=String.valueOf(sym1); // ms stand for total symbol in morse
String mn1=String.valueOf(num1); // mn stand for total number in morse
if (ml1.equals(comp[0])) {
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable
Smart Insert
302 : 5
Type here to search
ENG
10:32 PM
30/6/2020

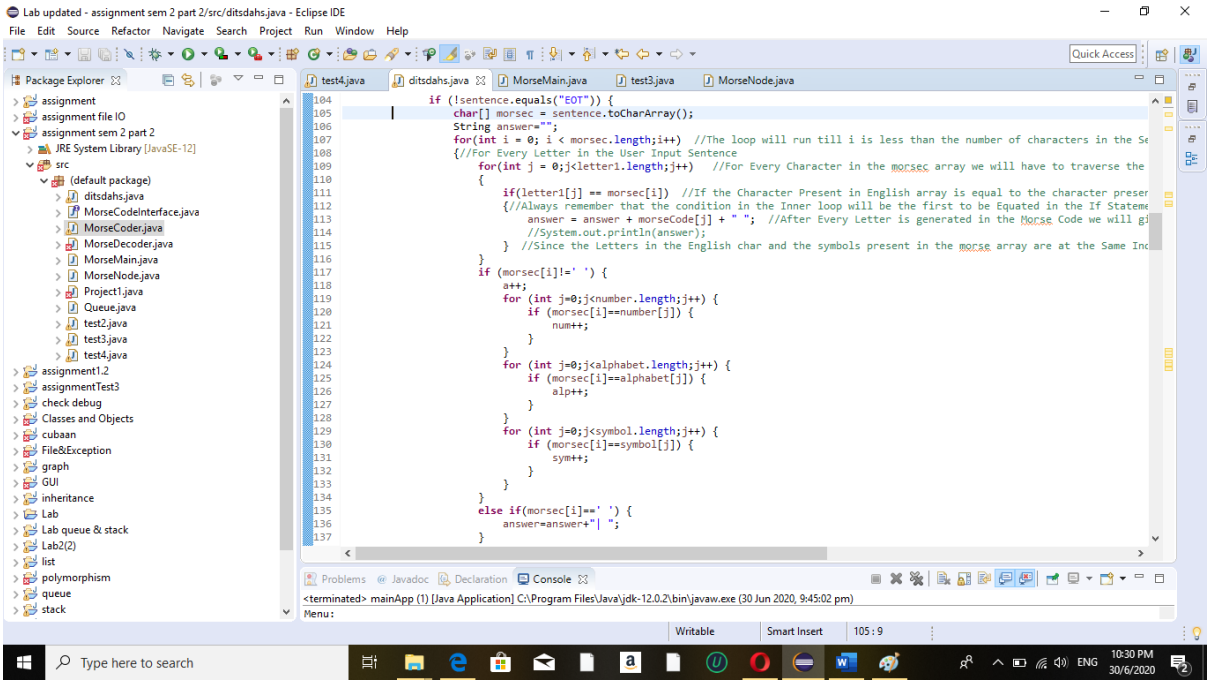

Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
if (ml1.equals(comp[0])) {
c3++;
System.out.print(ml1+" ");
}
if (mw1.equals(comp[1])) {
c3++;
System.out.print(mw1+" ");
}
if (ma1.equals(comp[2])) {
c3++;
System.out.print(ma1+" ");
}
if (ms1.equals(comp[3])) {
c3++;
System.out.print(ms1+" ");
}
if (mn1.equals(comp[4])) {
c3++;
System.out.print(mn1+" ");
}
System.out.println();
if (c3==5) {
System.out.println("Consistent Summary");
}
else {
System.out.println("Inconsistent Summary");
}
}
else if (choice==3) {
MorseCoder mc = new MorseCoder();
mc.inOrderPrint();
}
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable
Smart Insert
339 : 3
Type here to search
ENG
10:32 PM
30/6/2020

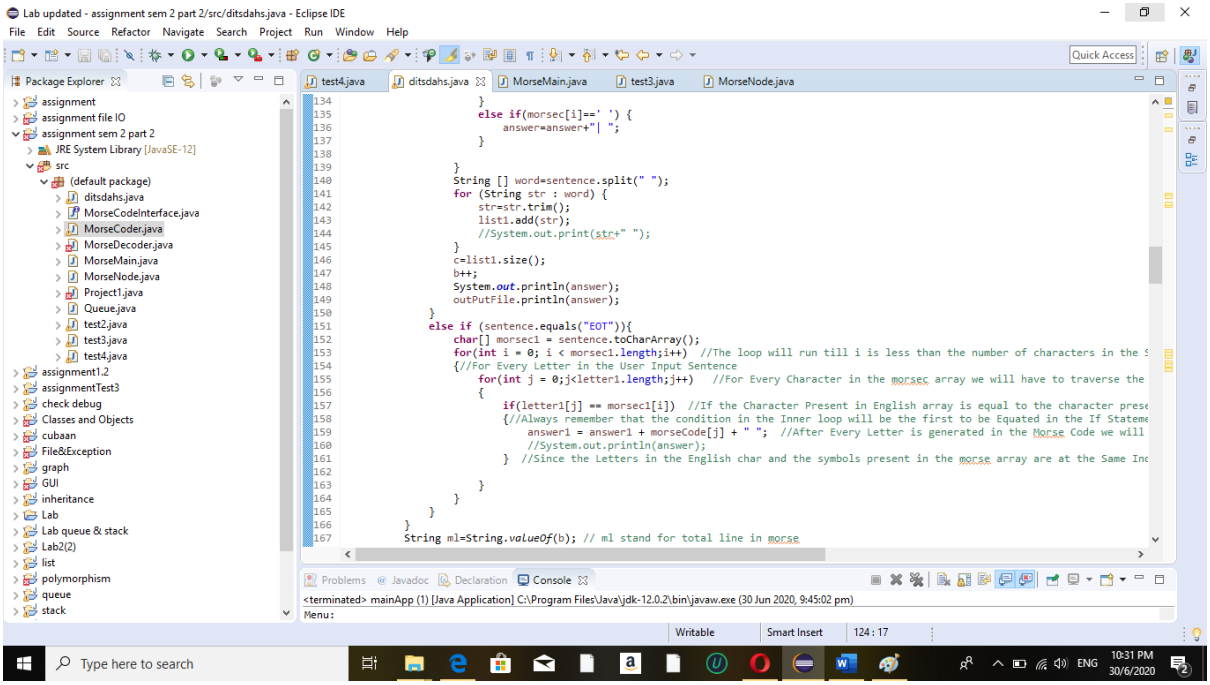

Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
System.out.print(ms1+" ");
}
if (mn1.equals(comp[4])) {
c3++;
System.out.print(mn1+" ");
}
System.out.println();
if (c3==5) {
System.out.println("Consistent Summary");
}
else {
System.out.println("Inconsistent Summary");
}
}
else if (choice==3) {
MorseCoder mc = new MorseCoder();
mc.inOrderPrint();
}
System.out.println("\nMenu:\n");
System.out.println("1. Send Morse Message ");
System.out.println("2. Receive Morse Message");
System.out.println("3. Print Letters and Morse Code");
System.out.println("4. Exit");
choice = sc.nextInt();
}
System.out.println("bye dits dahs..");
}
}
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable
Smart Insert
370 : 4
Type here to search
ENG
10:32 PM
30/6/2020

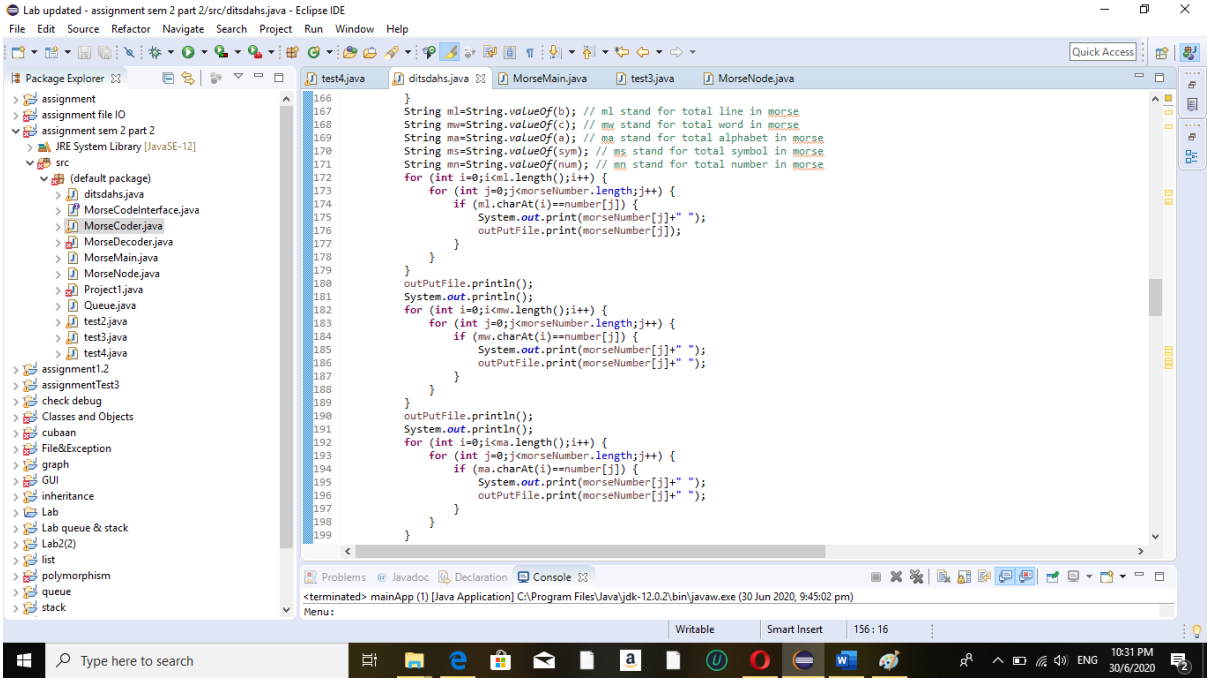
ii. Encode method

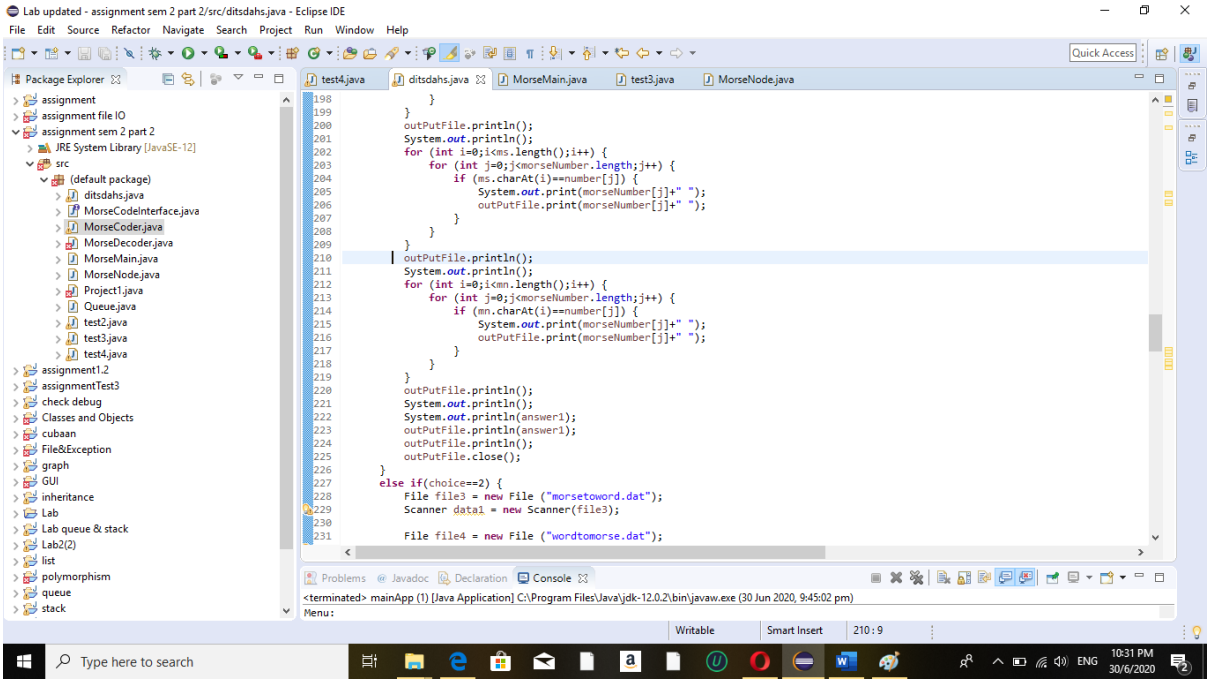
- We put message using .dat file.
- While input file still has next input, it will do the encode method.
- Make sure the letter is in upper case
- If the input is not equal EOT, it will keep doing process
- We separate every word into char array from the letter(input)
- Do the for loop for the char array
- If char array equal letter array, it will insert morse code into String answer
- If char array not equal space, it will do 3 for loop to count number, alphabet and symbol in the input.
- If char array equal space, it will put "|" inside String answer
- We use list to put the input file and then count the total word in input
- Else if sentence equal EOT, it will do for loop to put morse code into file to use as the input for decode method
- After that, we create 5 string for the total word,line,alphabet,number,and symbol.
- We use loop to change the 5 string into morse code and insert into file
- We put the EOT sentence into file




Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
if (!sentence.equals("EOT")) {
char[] morsec = sentence.toCharArray();
String answer="";
for(int i = 0; i < morsec.length;i++) //The loop will run till i is less than the number of characters in the Se
{//For Every Letter in the User Input Sentence
for(int j = 0;j<letter1.length;j++) //For Every Character in the morsec array we will have to traverse the
{
if(letter1[j] == morsec[i]) //If the Character Present in English array is equal to the character preser
{//Always remember that the condition in the Inner loop will be the first to be Equated in the If Stateme
answer = answer + morseCode[j] + " "; //After Every Letter is generated in the Morse Code we will gi
//System.out.println(answer);
} //Since the Letters in the English char and the symbols present in the morse array are at the Same Inc
}
if (morsec[i]!=' ') {
a++;
for (int j=0;j<number.length;j++) {
if (morsec[i]==number[j]) {
num++;
}
}
for (int j=0;j<alphabet.length;j++) {
if (morsec[i]==alphabet[j]) {
alp++;
}
}
for (int j=0;j<symbol.length;j++) {
if (morsec[i]==symbol[j]) {
sym++;
}
}
}
else if(morsec[i]==' ') {
answer=answer+"| ";
}
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable Smart Insert 105 : 9
Type here to search
ENG
10:30 PM
30/6/2020

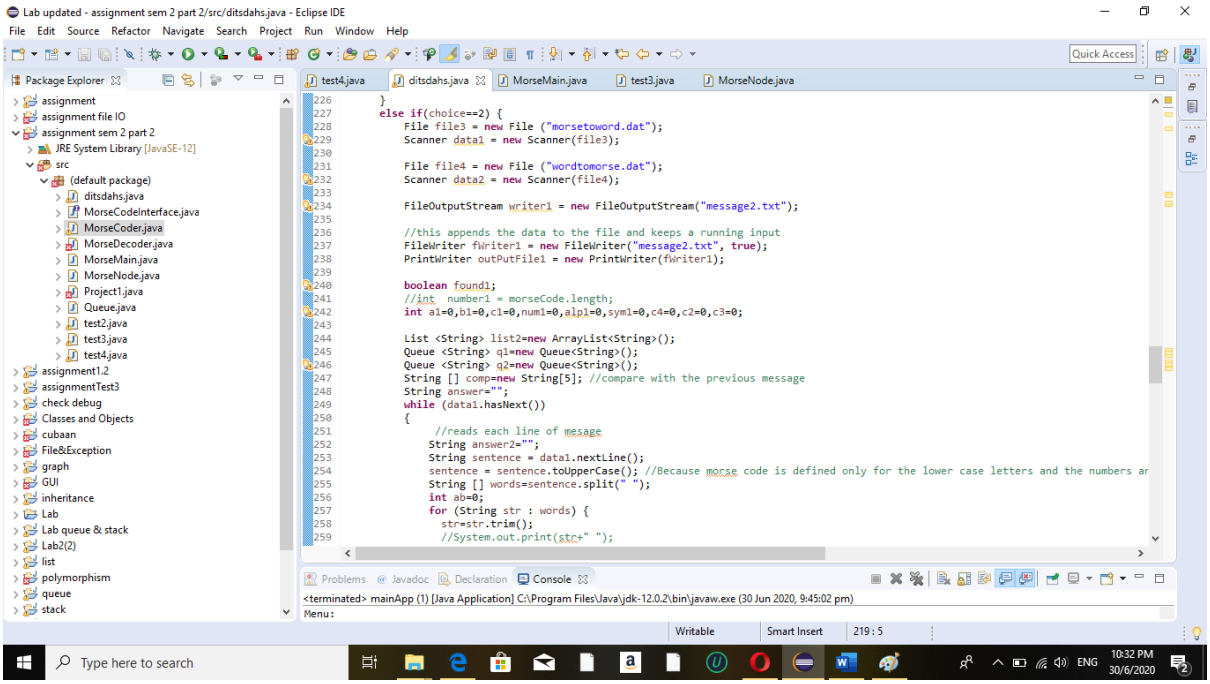

Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
}
else if(morsec[i]==' ') {
answer=answer+"| ";
}
}
String [] word=sentence.split(" ");
for (String str : word) {
str=str.trim();
list1.add(str);
//System.out.print(str+" ");
}
c=list1.size();
b++;
System.out.println(answer);
outPutFile.println(answer);
}
else if (sentence.equals("EOT")){
char[] morsec1 = sentence.toCharArray();
for(int i = 0; i < morsec1.length;i++) //The loop will run till i is less than the number of characters in the S
{//For Every Letter in the User Input Sentence
for(int j = 0;j<letter1.length;j++) //For Every Character in the morsec array we will have to traverse the
{
if(letter1[j] == morsec1[i]) //If the Character Present in English array is equal to the character prese
{//Always remember that the condition in the Inner loop will be the first to be Equated in the If Stateme
answer1 = answer1 + morseCode[j] + " "; //After Every Letter is generated in the Morse Code we will
//System.out.println(answer);
} //Since the Letters in the English char and the symbols present in the morse array are at the Same Inc
}
}
String ml=String.valueOf(b); // ml stand for total line in morse
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable Smart Insert 124 : 17
Type here to search
ENG
10:31 PM
30/6/2020

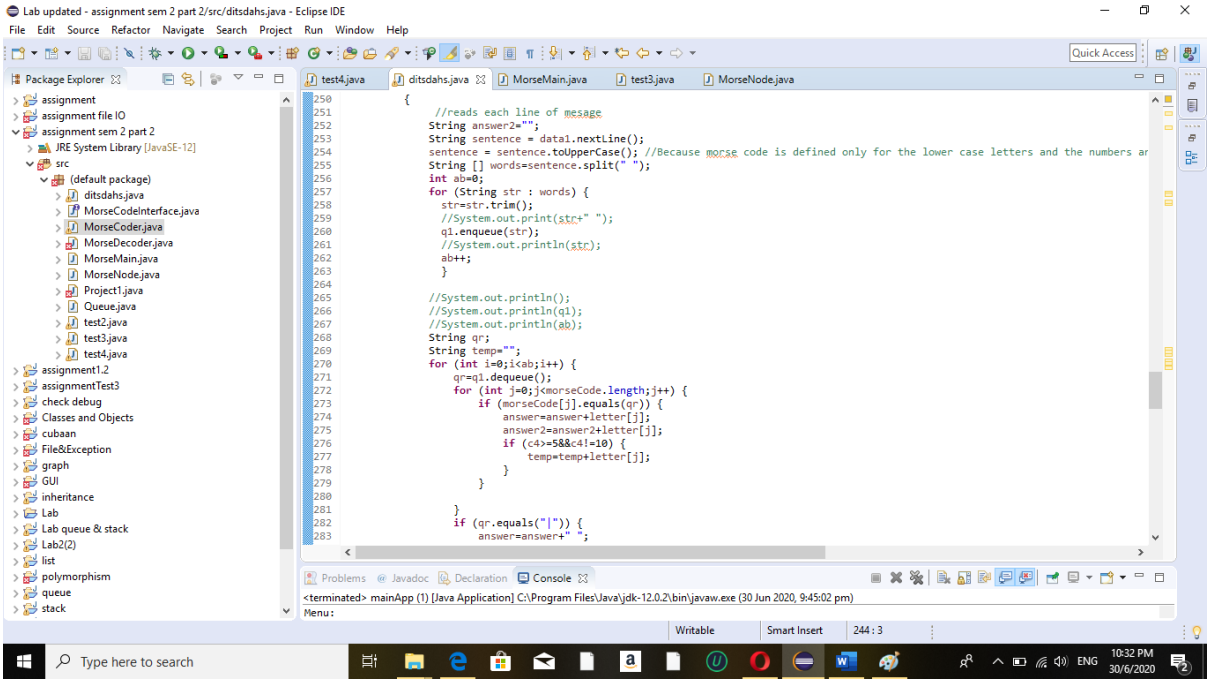

Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
166 }
167 String ml=String.valueOf(b); // ml stand for total line in morse
168 String mw=String.valueOf(c); // mw stand for total word in morse
169 String ma=String.valueOf(a); // ma stand for total alphabet in morse
170 String ms=String.valueOf(sym); // ms stand for total symbol in morse
171 String mn=String.valueOf(num); // mn stand for total number in morse
172 for (int i=0;i<ml.length();i++) {
173 for (int j=0;j<morseNumber.length;j++) {
174 if (ml.charAt(i)==number[j]) {
175 System.out.print(morseNumber[j]+" ");
176 outPutFile.print(morseNumber[j]);
177 }
178 }
179 }
180 outPutFile.println();
181 System.out.println();
182 for (int i=0;i<mw.length();i++) {
183 for (int j=0;j<morseNumber.length;j++) {
184 if (mw.charAt(i)==number[j]) {
185 System.out.print(morseNumber[j]+" ");
186 outPutFile.print(morseNumber[j]+" ");
187 }
188 }
189 }
190 outPutFile.println();
191 System.out.println();
192 for (int i=0;i<ma.length();i++) {
193 for (int j=0;j<morseNumber.length;j++) {
194 if (ma.charAt(i)==number[j]) {
195 System.out.print(morseNumber[j]+" ");
196 outPutFile.print(morseNumber[j]+" ");
197 }
198 }
199 }
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable Smart Insert 156 : 16
Type here to search
ENG
10:31 PM
30/6/2020

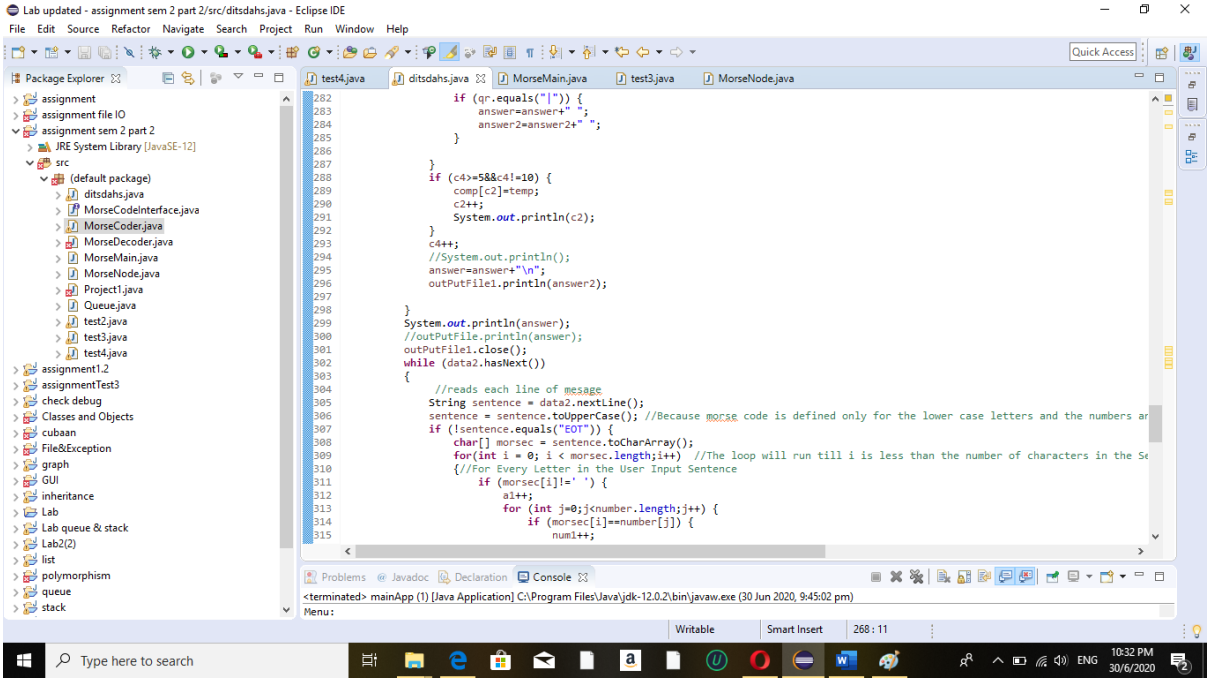

Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
198 }
199 }
200 outPutFile.println();
201 System.out.println();
202 for (int i=0;i<ms.length();i++) {
203 for (int j=0;j<morseNumber.length;j++) {
204 if (ms.charAt(i)==number[j]) {
205 System.out.print(morseNumber[j]+" ");
206 outPutFile.print(morseNumber[j]+" ");
207 }
208 }
209 }
210 outPutFile.println();
211 System.out.println();
212 for (int i=0;i<mn.length();i++) {
213 for (int j=0;j<morseNumber.length;j++) {
214 if (mn.charAt(i)==number[j]) {
215 System.out.print(morseNumber[j]+" ");
216 outPutFile.print(morseNumber[j]+" ");
217 }
218 }
219 }
220 outPutFile.println();
221 System.out.println();
222 System.out.println(answer1);
223 outPutFile.println(answer1);
224 outPutFile.println();
225 outPutFile.close();
226 }
227 else if(choice==2) {
228 File file3 = new File ("morsetoword.dat");
229 Scanner data1 = new Scanner(file3);
230
231 File file4 = new File ("wordtomorse.dat");
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable Smart Insert 210 : 9
Type here to search
ENG
10:31 PM
30/6/2020

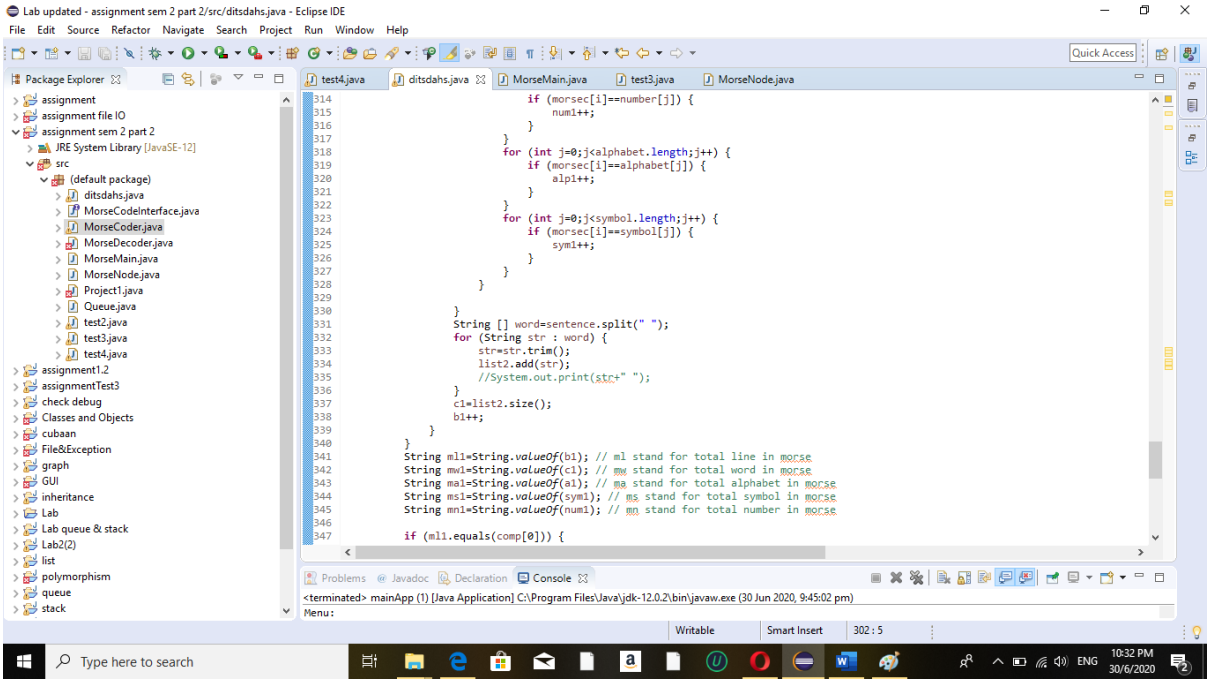
iii. Decode method

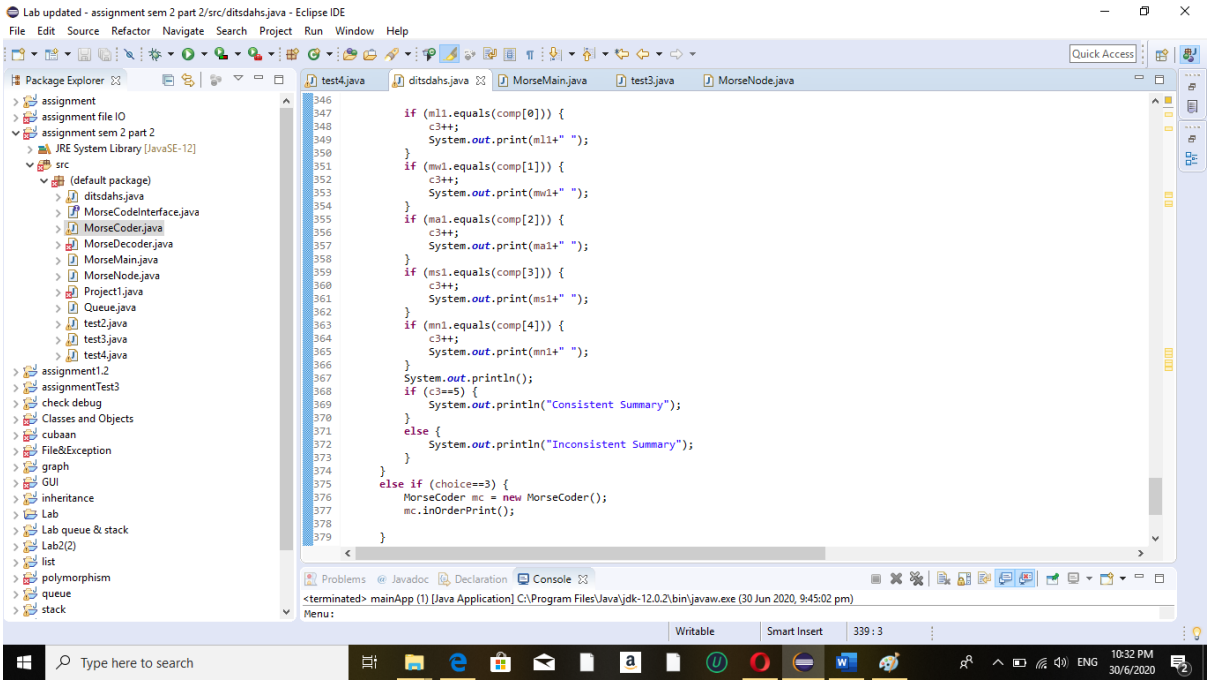
- We put message using .dat file.
- While input file still has next input, it will do the decode method.
- We separate every morse code into queue from the input
- Do 2 loop for the decode method
- First loop will dequeue morse code from queue and second loop is to turn morse code into word and put into string answer(print) and answer 2(print into file and input for consistent summary)
- If string array equal " | ", it will put space inside answer and answer 2
- If counter for line >=5 and not equal 10, it will put counter in count array(for consistent summary)
- We use list to put the input file and then count the total word in input
- We use another input (answer 2) to do the comparison
- While data has next, do the comparison process
- Make sure the letter is in upper case
- If the input is not equal EOT, it will keep doing process
- We separate every word into char array from the letter(input)
- Do the for loop for the char array
- If char array not equal space, it will count letter and do for loop to count number, alphabet and symbol in the input.
- We use list to put the input file and then count the total word in input
- Before while loop end, count the line
- After that, we create 5 string for the total line,word,alphabet,number,and symbol.
- We compare the 5 string with count array to compare if the input is consistent or incinsistent


Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
226 }
227 else if(choice==2) {
228 File file3 = new File ("morsetoword.dat");
229 Scanner data1 = new Scanner(file3);
230
231 File file4 = new File ("wordtomorse.dat");
232 Scanner data2 = new Scanner(file4);
233
234 FileOutputStream writer1 = new FileOutputStream("message2.txt");
235
236 //this appends the data to the file and keeps a running input
237 FileWriter fWriter1 = new FileWriter("message2.txt", true);
238 PrintWriter outPutFile1 = new PrintWriter(fWriter1);
239
240 boolean found1;
241 //int number1 = morseCode.length;
242 int a1=0,b1=0,c1=0,num1=0,alp1=0,sym1=0,c4=0,c2=0,c3=0;
243
244 List <String> list2=new ArrayList<String>();
245 Queue <String> q1=new Queue<String>();
246 Queue <String> q2=new Queue<String>();
247 String [] comp=new String[5]; //compare with the previous message
248 String answer="";
249 while (data1.hasNext())
250 {
251 //reads each line of mesage
252 String answer2="";
253 String sentence = data1.nextLine();
254 sentence = sentence.toUpperCase(); //Because morse code is defined only for the lower case letters and the numbers ar
255 String [] words=sentence.split(" ");
256 int ab=0;
257 for (String str : words) {
258 str=str.trim();
259 //System.out.print(str+" ");
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable Smart Insert 219 : 5
Type here to search
ENG
10:32 PM
30/6/2020


Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
250 {
251 //reads each line of mesage
252 String answer2="";
253 String sentence = data1.nextLine();
254 sentence = sentence.toUpperCase(); //Because morse code is defined only for the lower case letters and the numbers ar
255 String [] words=sentence.split(" ");
256 int ab=0;
257 for (String str : words) {
258 str=str.trim();
259 //System.out.print(str+" ");
260 q1.enqueue(str);
261 //System.out.println(str);
262 ab++;
263 }
264
265 //System.out.println();
266 //System.out.println(q1);
267 //System.out.println(ab);
268 String qr;
269 String temp="";
270 for (int i=0;i<ab;i++) {
271 qr=q1.dequeue();
272 for (int j=0;j<morseCode.length;j++) {
273 if (morseCode[j].equals(qr)) {
274 answer=answer+letter[j];
275 answer2=answer2+letter[j];
276 if (c4>=5&&c4!=10) {
277 temp=temp+letter[j];
278 }
279 }
280
281 }
282 if (qr.equals("|")) {
283 answer=answer+" ";
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable Smart Insert 244 : 3
Type here to search
ENG
10:32 PM
30/6/2020


Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
282 if (qr.equals("|")) {
283 answer=answer+" ";
284 answer2=answer2+" ";
285 }
286
287 }
288 if (c4>=5&&c4!=10) {
289 comp[c2]=temp;
290 c2++;
291 System.out.println(c2);
292 }
293 c4++;
294 //System.out.println();
295 answer=answer+"\n";
296 outPutFile1.println(answer2);
297
298 }
299 System.out.println(answer);
300 //outPutFile.println(answer);
301 outPutFile1.close();
302 while (data2.hasNext())
303 {
304 //reads each line of mesage
305 String sentence = data2.nextLine();
306 sentence = sentence.toUpperCase(); //Because morse code is defined only for the lower case letters and the numbers ar
307 if (!sentence.equals("EOT")) {
308 char[] morsec = sentence.toCharArray();
309 for(int i = 0; i < morsec.length;i++) //The loop will run till i is less than the number of characters in the Se
310 {//For Every Letter in the User Input Sentence
311 if (morsec[i]!=' ') {
312 a1++;
313 for (int j=0;j<number.length;j++) {
314 if (morsec[i]==number[j]) {
315 num1++;
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable Smart Insert 268 : 11
Type here to search
ENG 10:32 PM 30/6/2020

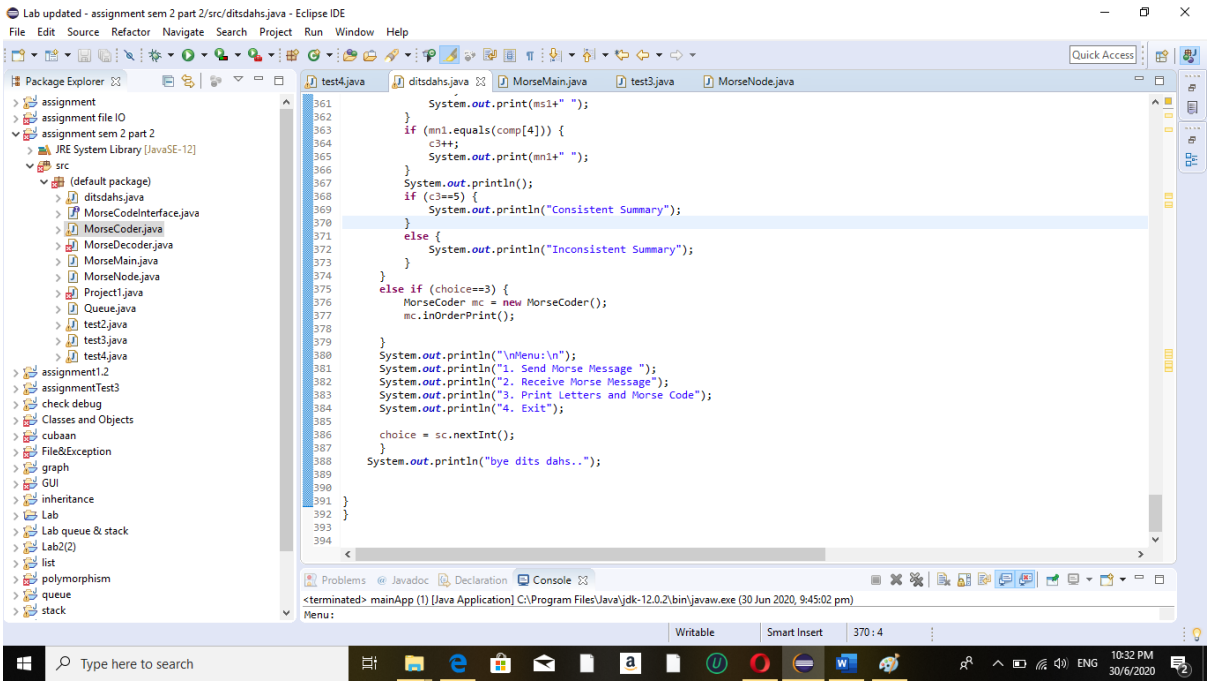

Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
314 if (morsec[i]==number[j]) {
315 num1++;
316 }
317 }
318 for (int j=0;j<alphabet.length;j++) {
319 if (morsec[i]==alphabet[j]) {
320 alp1++;
321 }
322 }
323 for (int j=0;j<symbol.length;j++) {
324 if (morsec[i]==symbol[j]) {
325 sym1++;
326 }
327 }
328 }
329
330 }
331 String [] word=sentence.split(" ");
332 for (String str : word) {
333 str=str.trim();
334 list2.add(str);
335 //System.out.print(str+" ");
336 }
337 c1=list2.size();
338 b1++;
339 }
340 }
341 String ml1=String.valueOf(b1); // ml stand for total line in morse
342 String mw1=String.valueOf(c1); // mw stand for total word in morse
343 String ma1=String.valueOf(a1); // ma stand for total alphabet in morse
344 String ms1=String.valueOf(sym1); // ms stand for total symbol in morse
345 String mn1=String.valueOf(num1); // mn stand for total number in morse
346
347 if (ml1.equals(comp[0])) {
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable Smart Insert 302 : 5
Type here to search
ENG 10:32 PM 30/6/2020


Lab updated - assignment sem 2 part 2/src/ditsdahs.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
346
347 if (ml1.equals(comp[0])) {
348 c3++;
349 System.out.print(ml1+" ");
350 }
351 if (mw1.equals(comp[1])) {
352 c3++;
353 System.out.print(mw1+" ");
354 }
355 if (ma1.equals(comp[2])) {
356 c3++;
357 System.out.print(ma1+" ");
358 }
359 if (ms1.equals(comp[3])) {
360 c3++;
361 System.out.print(ms1+" ");
362 }
363 if (mn1.equals(comp[4])) {
364 c3++;
365 System.out.print(mn1+" ");
366 }
367 System.out.println();
368 if (c3==5) {
369 System.out.println("Consistent Summary");
370 }
371 else {
372 System.out.println("Inconsistent Summary");
373 }
374 }
375 else if (choice==3) {
376 MorseCoder mc = new MorseCoder();
377 mc.inOrderPrint();
378
379 }
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Writable
Smart Insert
339 : 3
Type here to search
ENG
10:32 PM
30/6/2020

iv. Display all letters and morse code

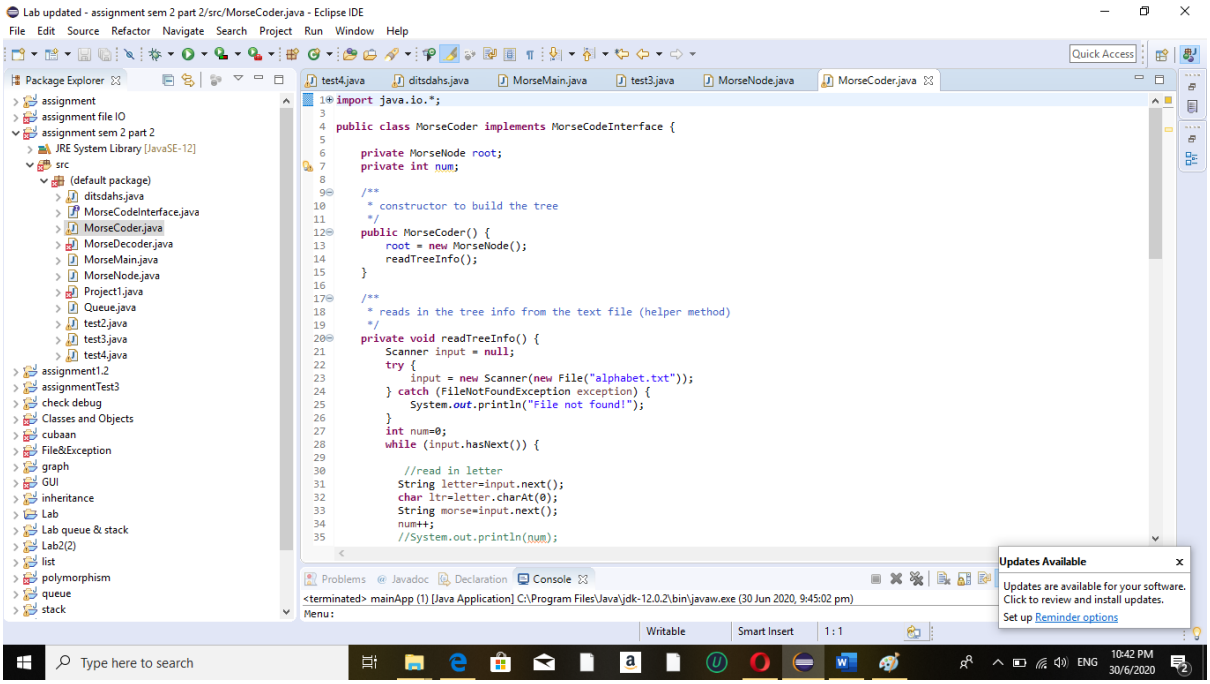
In main method:

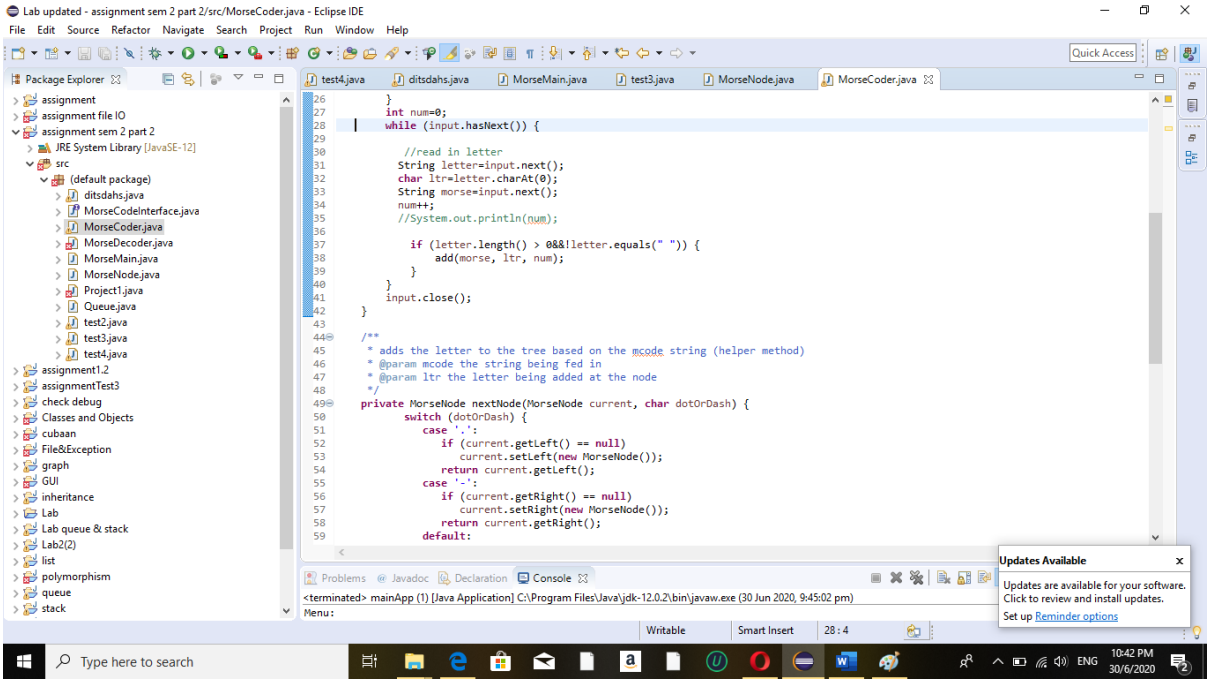
We just use MorseCoder mc and mc.inOrderPrint method

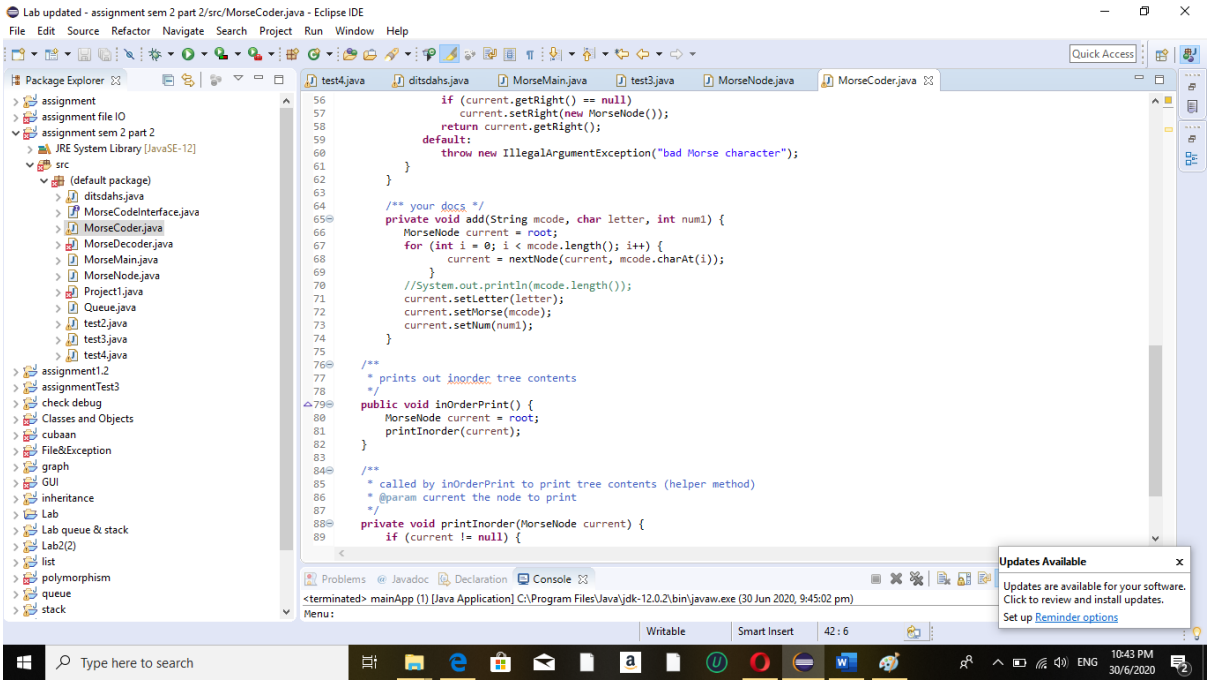


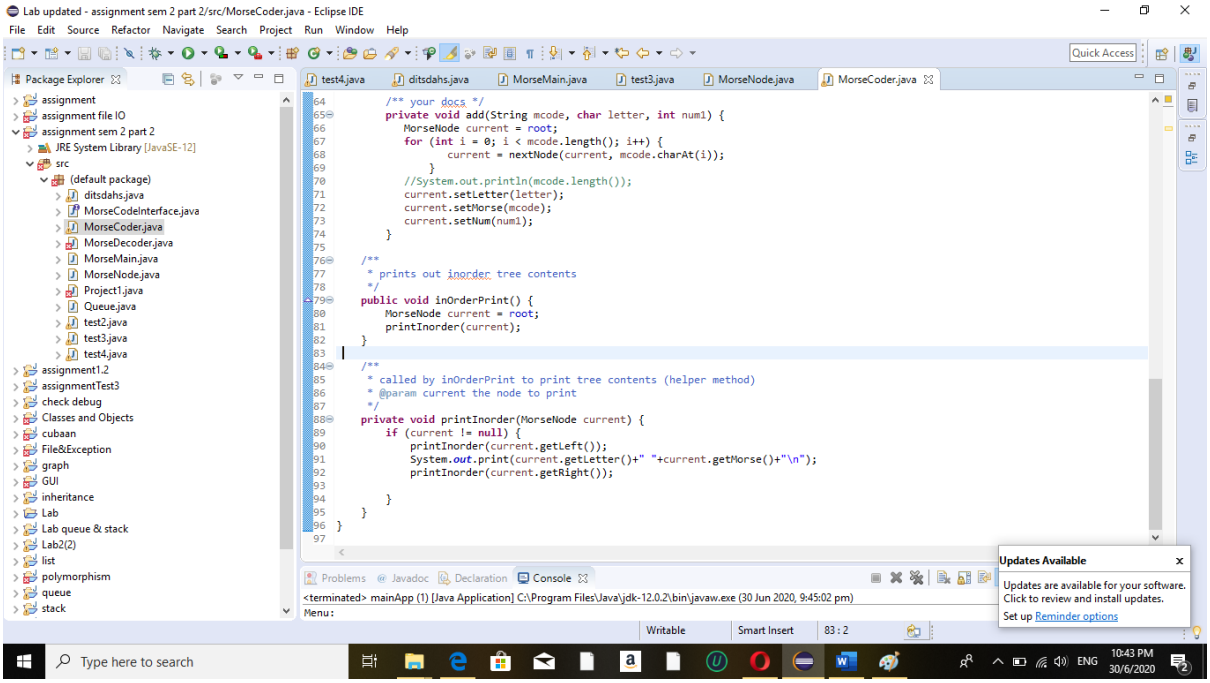
In MorseCoder class

- We will put the input which is the letter and morse code
- It will do add method to put into tree
- In add method, it will put current=root and char morse code into nextNode method
- Then it will set letter and morse code for current.
- In nextNode method, it will determine if the input is left root or right root.
- If the char morse code equal dot, it is left root
- If left root empty,current.setLeft and return current.getLeft
- Else if char morse code equal dahs, it is right root
- If right root empty, current.setRight and return current.getRight
- In printInorder,if MorseNode current not equal null, it will do inorder traversal
- In inOrderPrint,it will print letter and morse code in inorder traversal


Lab updated - assignment sem 2 part 2/src/MorseCoder.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
MorseCoder.java
1 import java.io.*;
3
4 public class MorseCoder implements MorseCodeInterface {
5
6 private MorseNode root;
7 private int num;
8
9 /**
10 * constructor to build the tree
11 */
12 public MorseCoder() {
13 root = new MorseNode();
14 readTreeInfo();
15 }
16
17 /**
18 * reads in the tree info from the text file (helper method)
19 */
20 private void readTreeInfo() {
21 Scanner input = null;
22 try {
23 input = new Scanner(new File("alphabet.txt"));
24 } catch (FileNotFoundException exception) {
25 System.out.println("File not found!");
26 }
27 int num=0;
28 while (input.hasNext()) {
29
30 //read in letter
31 String letter=input.next();
32 char ltr=letter.charAt(0);
33 String morse=input.next();
34 num++;
35 //System.out.println(num);
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Updates Available
Updates are available for your software. Click to review and install updates.
Set up Reminder options
Writable
Smart Insert
1 : 1
Type here to search
ENG
10:42 PM
30/6/2020


Lab updated - assignment sem 2 part 2/src/MorseCoder.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
MorseCoder.java
26 }
27 int num=0;
28 while (input.hasNext()) {
29
30 //read in letter
31 String letter=input.next();
32 char ltr=letter.charAt(0);
33 String morse=input.next();
34 num++;
35 //System.out.println(num);
36
37 if (letter.length() > 0&&!letter.equals(" ")) {
38 add(morse, ltr, num);
39 }
40 }
41 input.close();
42 }
43
44 /**
45 * adds the letter to the tree based on the mcode string (helper method)
46 * @param mcode the string being fed in
47 * @param ltr the letter being added at the node
48 */
49 private MorseNode nextNode(MorseNode current, char dotOrDash) {
50 switch (dotOrDash) {
51 case '.':
52 if (current.getLeft() == null)
53 current.setLeft(new MorseNode());
54 return current.getLeft();
55 case '-':
56 if (current.getRight() == null)
57 current.setRight(new MorseNode());
58 return current.getRight();
59 default:
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Updates Available
Updates are available for your software. Click to review and install updates.
Set up Reminder options
Writable
Smart Insert
28 : 4
Type here to search
ENG
10:42 PM
30/6/2020


Lab updated - assignment sem 2 part 2/src/MorseCoder.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
MorseCoder.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
if (current.getRight() == null)
current.setRight(new MorseNode());
return current.getRight();
default:
throw new IllegalArgumentException("bad Morse character");
}
}
/** your docs */
private void add(String mcode, char letter, int num1) {
MorseNode current = root;
for (int i = 0; i < mcode.length(); i++) {
current = nextNode(current, mcode.charAt(i));
}
//System.out.println(mcode.length());
current.setLetter(letter);
current.setMorse(mcode);
current.setNum(num1);
}
/**
* prints out inorder tree contents
*/
public void inOrderPrint() {
MorseNode current = root;
printInorder(current);
}
/**
* called by inOrderPrint to print tree contents (helper method)
* @param current the node to print
*/
private void printInorder(MorseNode current) {
if (current != null) {
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Updates Available
Updates are available for your software.
Click to review and install updates.
Set up Reminder options
Writable
Smart Insert
42 : 6
Type here to search
ENG
10:43 PM
30/6/2020


Lab updated - assignment sem 2 part 2/src/MorseCoder.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
MorseCoder.java
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
/** your docs */
private void add(String mcode, char letter, int num1) {
MorseNode current = root;
for (int i = 0; i < mcode.length(); i++) {
current = nextNode(current, mcode.charAt(i));
}
//System.out.println(mcode.length());
current.setLetter(letter);
current.setMorse(mcode);
current.setNum(num1);
}
/**
* prints out inorder tree contents
*/
public void inOrderPrint() {
MorseNode current = root;
printInorder(current);
}
/**
* called by inOrderPrint to print tree contents (helper method)
* @param current the node to print
*/
private void printInorder(MorseNode current) {
if (current != null) {
printInorder(current.getLeft());
System.out.print(current.getLetter()+" "+current.getMorse()+"\n");
printInorder(current.getRight());
}
}
}
Problems Javadoc Declaration Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
Menu:
Updates Available
Updates are available for your software.
Click to review and install updates.
Set up Reminder options
Writable
Smart Insert
83 : 2
Type here to search
ENG
10:43 PM
30/6/2020

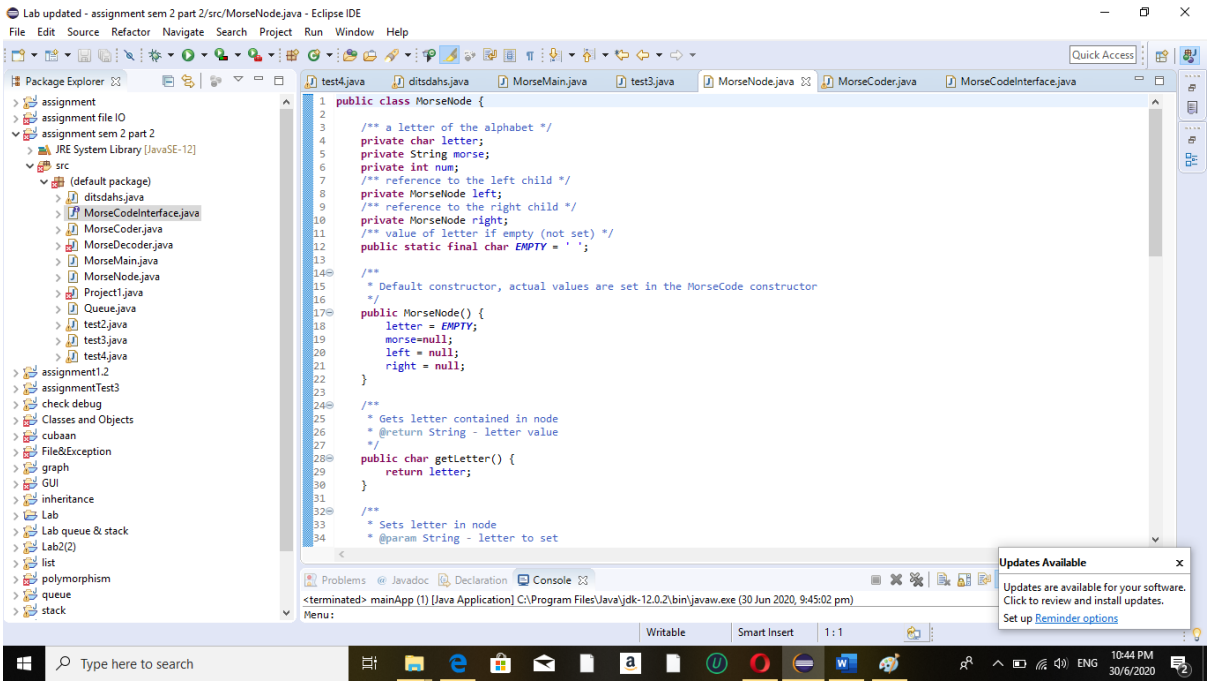
In MorseCodeInterface:

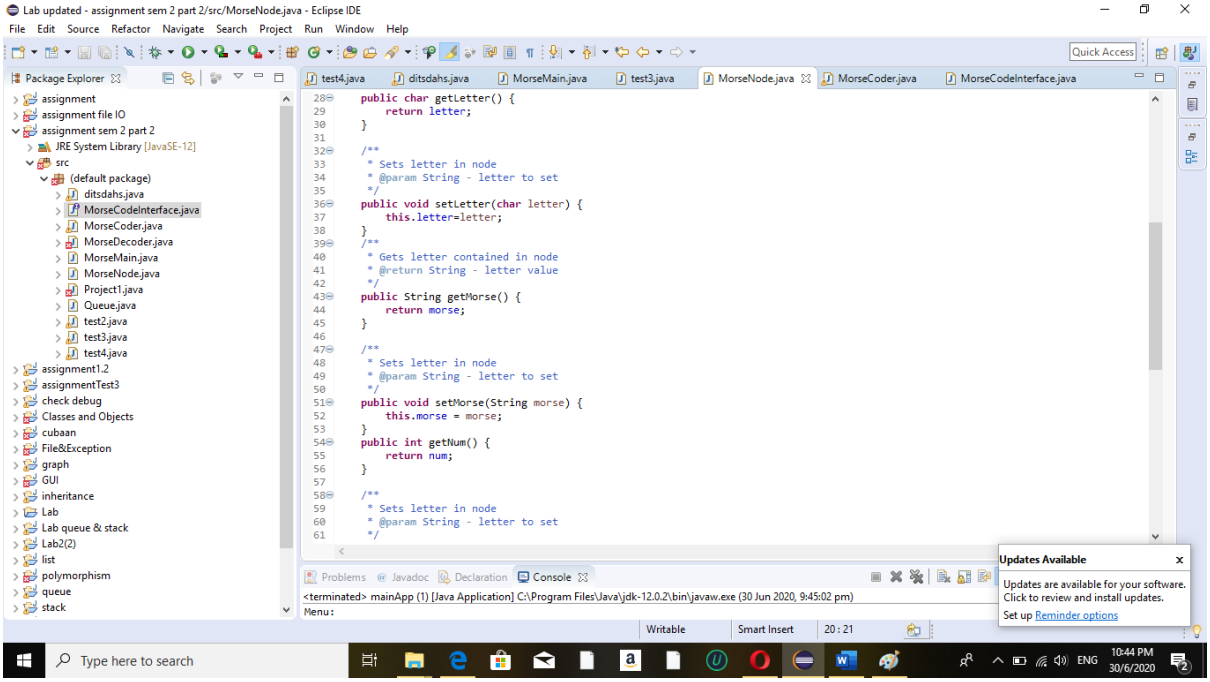
- It will use for inOrderPrint method

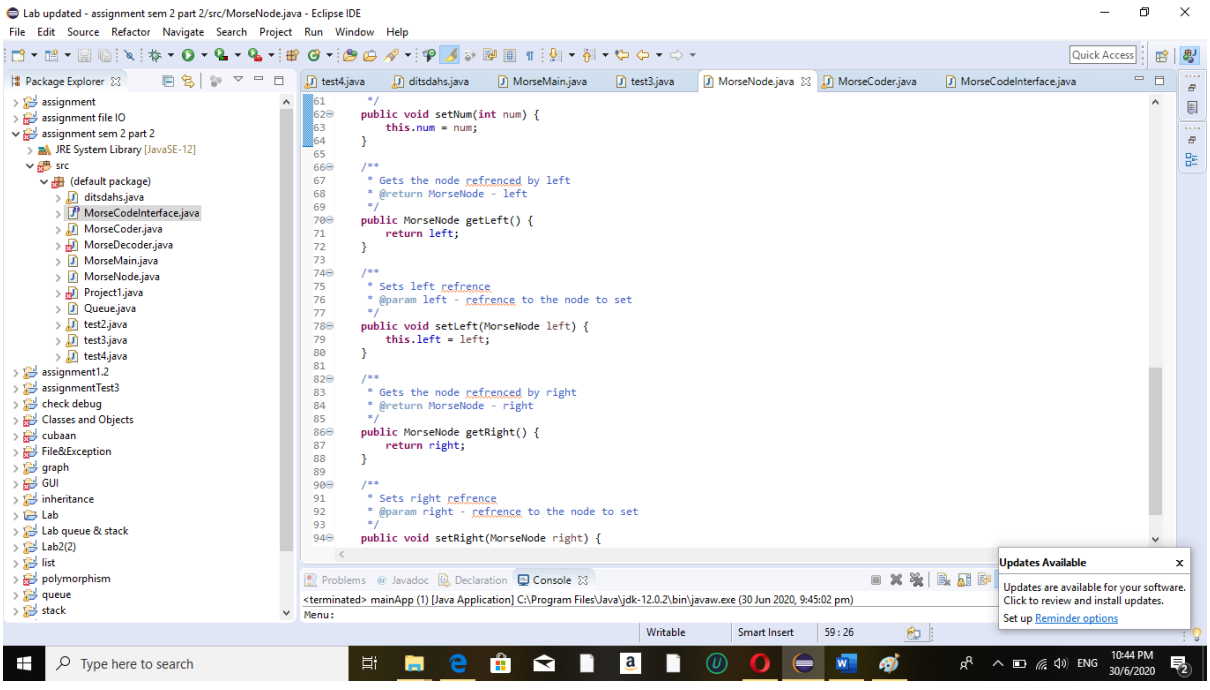
```java
public interface MorseCodeInterface {


    void inOrderPrint();

}
```

In MorseNode class:

- This class is to declare most of the method in MorseCoder class
- Like getLetter, setLetter, getMorse, setMorse, getLeftr, setLeft, getRight, setRight,





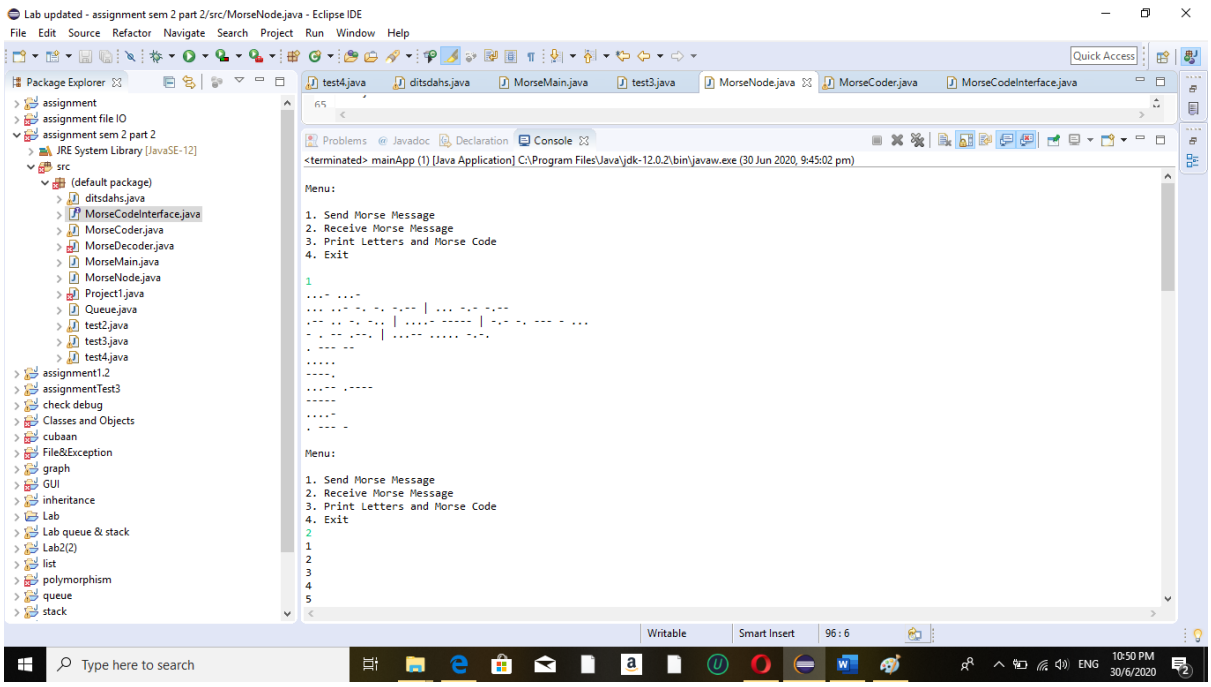


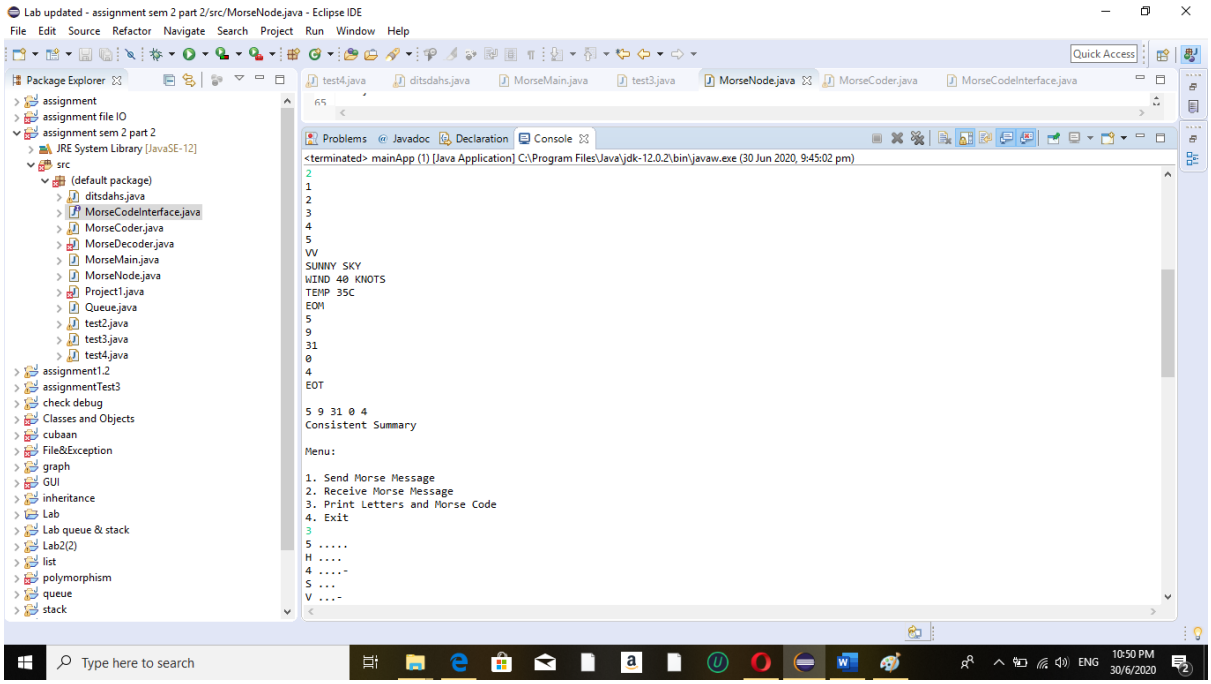

```
    /**
     * Sets right refrence
     * @param right - refrence to the node to set
     */
    public void setRight(MorseNode right) {
        this.right = right;
    }

}
```

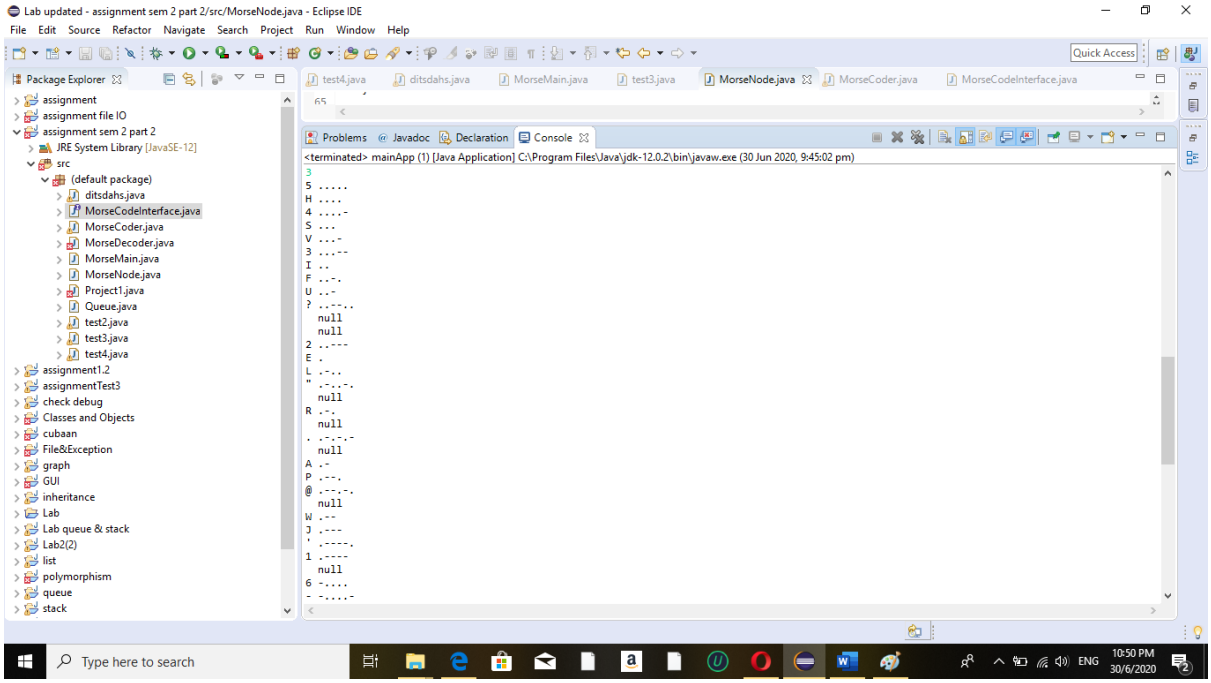
5. Assumptions

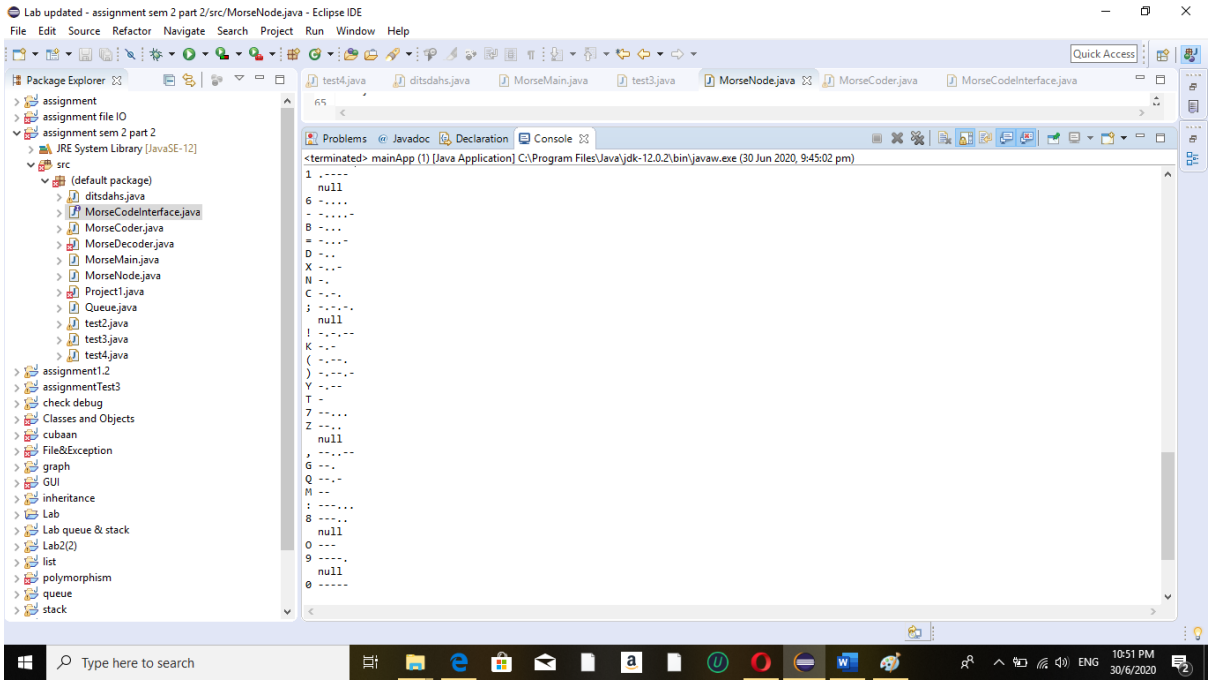
- In programming, we can store “ “ in array but if we print out,it will not show “ “
- We can use inorder tree traversal to sort the letter and morse in part 3
- We can use queue or list to store the data for a while and print it in FIFO order (First In First Out)

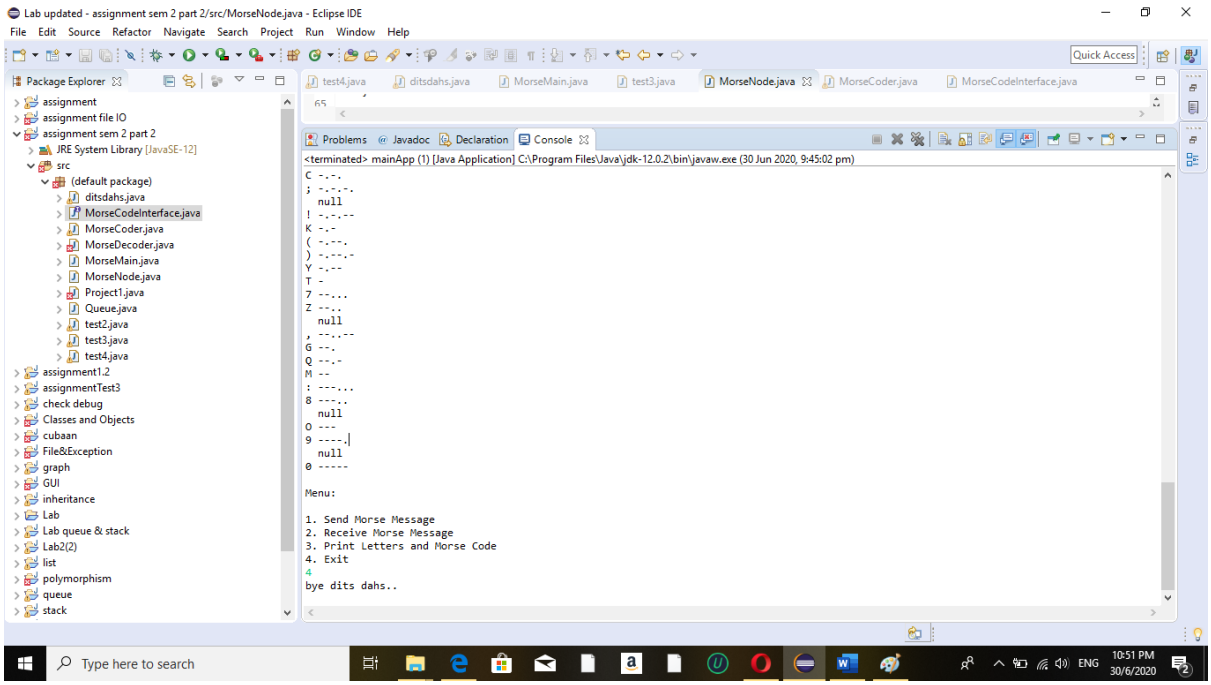
6. Input-Output




Lab updated - assignment sem 2 part 2/src/MorseNode.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
MorseCoder.java
MorseCodeInterface.java
Problems
Javadoc
Declaration
Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
2
1
2
3
4
5
VV
SUNNY SKY
WIND 40 KNOTS
TEMP 35C
EOM
5
9
31
0
4
EOT
5 9 31 0 4
Consistent Summary
Menu:
1. Send Morse Message
2. Receive Morse Message
3. Print Letters and Morse Code
4. Exit
3
5 .....
H ....
4 ....-
S ...
V ...-
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
Type here to search
ENG
10:50 PM
30/6/2020


Lab updated - assignment sem 2 part 2/src/MorseNode.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
MorseCoder.java
MorseCodeInterface.java
Problems
Javadoc
Declaration
Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
3
5 .....
H ....
4 ....-
S ...
V ...-
3 ...--
I ..
F ..-.
U ..-
? ..--..
null
null
2 ..---
E .
L .-..
" .-..-.
null
R .-.
null
. .-.-.-
null
A .-
P .--.
@ .--.-.
null
W .--
J .---
' .----.
1 .----
null
6 -....
- -....-
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
Type here to search
ENG
10:50 PM
30/6/2020


Lab updated - assignment sem 2 part 2/src/MorseNode.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
MorseCoder.java
MorseCodeInterface.java
Problems
Javadoc
Declaration
Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
1 .----
null
6 -....
- -....-
8 ---..
= -...-
D -..
X -..-
N -.
C -.-.
; -.-.-.
null
! -.-.--
K -.-
(-.--.
) -.--.-
Y -.--
T -
7 --...
Z --..
null
, --..--
G --.
Q --.-
M --
: ---...
8 ---..
null
O ---
9 ----.
null
0 -----
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
Type here to search
ENG
10:51 PM
30/6/2020


Lab updated - assignment sem 2 part 2/src/MorseNode.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Package Explorer
test4.java
ditsdahs.java
MorseMain.java
test3.java
MorseNode.java
MorseCoder.java
MorseCodeInterface.java
Problems
Javadoc
Declaration
Console
<terminated> mainApp (1) [Java Application] C:\Program Files\Java\jdk-12.0.2\bin\javaw.exe (30 Jun 2020, 9:45:02 pm)
C -.-.
; -.-.-.
null
! -.-.--
K -.-
(-.--.
) -.--.-
Y -.--
T -
7 --...
Z --..
null
, --..--
G --.
Q --.-
M --
: ---...
8 ---..
null
O ---
9 ----.
null
0 -----
Menu:
1. Send Morse Message
2. Receive Morse Message
3. Print Letters and Morse Code
4. Exit
4
bye dits dahs..
assignment
assignment file IO
assignment sem 2 part 2
JRE System Library [JavaSE-12]
src
(default package)
ditsdahs.java
MorseCodeInterface.java
MorseCoder.java
MorseDecoder.java
MorseMain.java
MorseNode.java
Project1.java
Queue.java
test2.java
test3.java
test4.java
assignment1.2
assignmentTest3
check debug
Classes and Objects
cubaan
File&Exception
graph
GUI
inheritance
Lab
Lab queue & stack
Lab2(2)
list
polymorphism
queue
stack
Type here to search
ENG
10:51 PM
30/6/2020