

EECS 2311 TESTING DOCUMENT

Group 3

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1. Java serialization and deserialization.

- making sure that the code that serializes the TalkBox object works. By doing following code, we checked the instance for talkbox is not null.

```
if (t == null) {  
    fail("unexpected null pointer exception");  
} else {  
    assertTrue(t != null);  
}
```

- making sure that the initialization of instance variable has been successfully done. By doing following code, we checked the number of audioset and audiobutton.

```
assertEquals(1, t.getNumberOfAudioSets());  
assertEquals(5, t.getNumberOfAudioButtons());
```

- making sure that the initialization of instance variable has been Successfully done. By doing following code, we checked the audiofiles has successfully loaded.

```
String [][] insaudio =t.getAudioFileNames();  
for(int i=0; i<t.getNumberOfAudioSets();i++) {  
    for(int j=0;j<t.getNumberOfAudioButtonsbyset(i);j++) {  
        if(!audio[i][j].equals(insaudio[i][j]) ) {  
            fail("audioset has unexpected file"); }  
        }  
    }  
}
```

#whole code for Testing

```
class Tester {
    TalkBox talkbox;
    TalkBox t;

    @BeforeEach
    void setUp() throws Exception {
        talkbox = new TalkBox();
        talkbox.setNumberOfAudioButtons(5);
        talkbox.setNumberOfAudioSets(1);
        String[][] audioFileNames = new
String[talkbox.getNumberOfAudioSets()][talkbox.getNumberOfAudioButtons()];
        audioFileNames[0][0] = "data\\audio\\test1.wav";
        audioFileNames[0][1] = "data\\audio\\ShakeYourBootay.wav";
        audioFileNames[0][2] = "data\\audio\\MoodyLoop.wav";
        audioFileNames[0][3] = "data\\audio\\UpBeatFunk.wav";
        audioFileNames[0][4] = "data\\audio\\no.wav";
        talkbox.setAudioFileNames(audioFileNames);

        FileOutputStream fileOutputStream = new FileOutputStream("data/configure.tbc");
        ObjectOutputStream objectOutputStream = new ObjectOutputStream(fileOutputStream);
        objectOutputStream.writeObject(talkbox);
        objectOutputStream.flush();
        objectOutputStream.close();

    }

    @Test
    void serializable_test() {

        try {
            FileInputStream fileInputStream = new FileInputStream("data/configure.tbc");
            ObjectInputStream objectInputStream = new ObjectInputStream(fileInputStream);
            TalkBox t = (TalkBox) objectInputStream.readObject();
            if (t == null) {
                fail("unexpected null pointer exception");
            } else {
                assertTrue(t != null);
            }
            objectInputStream.close();
        } catch (NullPointerException | IOException | ClassNotFoundException e) {
            e.printStackTrace();
        }
    }

    @Test
    void audio_test() {

        try {
            FileInputStream fileInputStream = new FileInputStream("data/configure.tbc");
            ObjectInputStream objectInputStream = new ObjectInputStream(fileInputStream);
            TalkBox t = (TalkBox) objectInputStream.readObject();
            String[][] audio = new String[1][5];
            audio[0][0] = "data\\audio\\test1.wav";
            audio[0][1] = "data\\audio\\ShakeYourBootay.wav";
            audio[0][2] = "data\\audio\\MoodyLoop.wav";
            audio[0][3] = "data\\audio\\UpBeatFunk.wav";
            audio[0][4] = "data\\audio\\no.wav";
            String [][] insaudio =t.getAudioFileNames();
            for(int i=0; i<t.getNumberOfAudioSets();i++) {
```

```

        for(int j=0;j<t.getNumberOfAudioButtonsbyset(i);j++) {
            if(!audio[i][j].equals(inaudio[i][j])) {
                fail("audioset has unexpected file");
            }
        }
    }
    assertTrue(true);
    objectInputStream.close();
} catch (NullPointerException | IOException | ClassNotFoundException e) {
    e.printStackTrace();
}

}

@Test
void btn_test() {
    try {
        FileInputStream fileInputStream = new FileInputStream("data/configure.tbc");
        ObjectInputStream objectInputStream = new ObjectInputStream(fileInputStream);
        TalkBox t = (TalkBox) objectInputStream.readObject();
        assertEquals(1, t.getNumberOfAudioSets());
        assertEquals(5, t.getNumberOfAudioButtons());

        objectInputStream.close();
    } catch (NullPointerException | IOException | ClassNotFoundException e) {
        e.printStackTrace();
    }
}

}

```