String stream and its uses !!

🔍 Goal of the Code:

👉 Find the word that appears **most frequently** in a sentence! 🕵️‍♂️📈

📦 Step-by-step Breakdown:

🛠️ 1. Include Libraries

```
#include<iostream>
#include<string>
#include<algorithm>
#include<vector>
#include<sstream>
```

📚 These are the tools from the C++ toolkit:

- `iostream` – for input/output 🚪🗣️
- `string` – to work with text 🎀
- `algorithm` – gives us `sort()`! 🔤
- `vector` – dynamic arrays 💼
- `sstream` – to break a sentence into words ✂️✍️

💬 2. The Sentence

```
string s ="Akshat is a AI student and a DSA student as well";
```

🗣️ We have a sentence about **you** – Akshat! Let's see which word repeats the most 🧠

🪓 3. Break It Down – Word by Word

```
stringstream ss(s);
vector<string>v;
string temp;
while(ss >> temp){
  v.push_back(temp);
}
```

✂️✂️ The sentence is chopped word-by-word using `stringstream`!

🧺 Each word is stored inside a **vector** 🧠 like a basket of words!

📝 Example output:

```
["Akshat", "is", "a", "AI", "student", "and", "a", "DSA", "student", "as", "well"]
```

🔃 4. Sort the Words

```
sort(v.begin(),v.end());
```

🧱 Sorting the words alphabetically 🔤 makes it **easy to count duplicates!**

🔢 5. Find Max Frequency

```
int count=1;
int maxCount=1;
for(int i=1;i<v.size();i++){
    if(v[i]==v[i+1]){
        count++;
    }
    else count=1;
    maxCount=max(maxCount,count);
}
```

📏 We walk through the sorted list and count how many times a word appears back-to-back.

🧠 `maxCount` stores the highest number of repeats found!

💡 For this example, maxCount would be `2` because:

- `"a"` → 2 times
- `"student"` → 2 times

📣 6. Display the Most Frequent Word(s)

```
count =1;
for(int i=1;i<v.size();i++){
   if(v[i]==v[i+1]){
       count++;
   }
   else count=1;
   if(count==maxCount){
      cout<<v[i]<<" "<<maxCount<<endl;
   }
}
```

🖨️ Prints all the words that appear `maxCount` times!

🧾 Output:

```
a 2
student 2
```

✅ Final Takeaway

🎯 This code takes a sentence ➡️ breaks it into words ➡️ sorts them ➡️ finds the most repeated word(s) ➡️ prints them!

💡 Bonus Tip:

This is great practice for:

- ✨ **String manipulation**
- 🔁 **Loops**
- 🧠 **Logic building**
- 🗃️ **Using STL containers like vector and stringstream**
