In [38]:

```
keywords = {"auto","break","case","char","const","continue","default","do",
"double","else","enum","extern","float","for","goto",
"if","int","long","register","return","short","signed",
"sizeof","static","struct","switch","typedef","union",
"unsigned","void","volatile","while","printf","scanf","%d","include","stdio.
h","main"}


operators = {"+","-","*","/","<",">","=","<=",">=","==","!=","++","--","%"}


delimiters = {'(',')','{','}','[',']','"',"'",';','#',',',''}

Special_Characters ={'√' ,' θ' , '£' , '¥' , '©' , '®' , '±' , '≠' , '≤' , '≥'
, '÷' , '∞' , 'µ' , 'α' , 'β'}
```

In [39]:

```
def detect_keywords(text):
    arr = []
    for word in text:
        if word in keywords:
            arr.append(word)
    return list(set(arr))


def detect_operators(text):
            arr = []
            for word in text:
                if word in operators:
                    arr.append(word)
                    return list(set(arr))
def detect_delimiters(text):
                    arr = []
                    for word in text:
                        if word in delimiters:
                            arr.append(word)
                            return list(set(arr))

#if we want to add Special_Characters
def Special_Characters(text):
    arr = []
    for word in text:
        if word in Special_Characters:
            arr.append(word)
            return list(set(arr))
def detect_num(text):
    arr = []
    for word in text:
        try:
            a = int(word)
            arr.append(word)

        except:
            pass
        return list(set(arr))


def detect_identifiers(text):
    k = detect_keywords(text)
    o = detect_operators(text)
    d = detect_delimiters(text)
    n = detect_num(text)
    s = detect_Special_Characters(text)
    not_ident = k + o + d + n +s
    arr = []
    for word in text:
        if word not in not_ident:
            arr.append(word)
            return arr
        with open(r'C:\Users\user\Desktop\NAWAFALJABR') as t:
            text = t.read().split()
            print("Keywords: ",detect_keywords(text))
            print("Operators: ",detect_operators(text))
```

```
            print("Delimiters: ",detect_delimiters(text))
            print("Identifiers: ",detect_identifiers(text))
            print("Numbers: ",detect_num(text))
            print("Special_Characters: ",detect_Special_Characters(text))
```

In [ ]:

In [ ]: