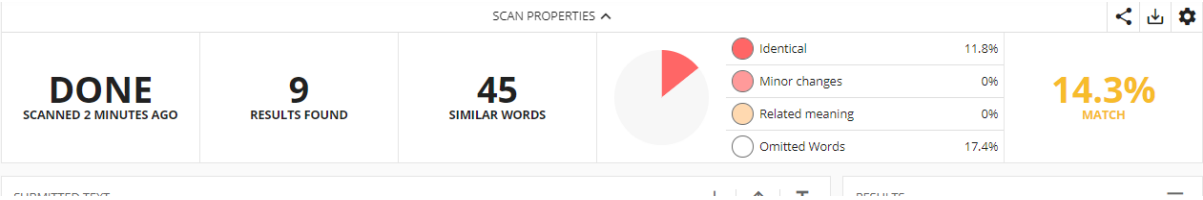
SOURCE CODE PLAGIARISM REPORT – COPYLEAKS.COM




```
import os
    if request.method == 'POST':
     graph = request.files['input']

graph.save(os.path.join("C:/Users/sanka/Downloads/cd_1/
","graph.txt"))
     f="C:/Users/sanka/Downloads/cd_1/graph.txt"

     def buildG(G, file_, delimiter_):
             reader = csv.reader(open(file_),
delimiter=delimiter_)
             for line in reader:

G.add_edge(int(line[0]),int(line[1]))
     G = nx.Graph()
     print(G)
     buildG(G, f, ' ')
     nx.draw(G,pos=nx.spring_layout(G))
     plt.savefig('C:/My Web
Sites/dashboard_CD_SENA/community/templates/admin/main/
source/static/plotgraph.png')s
     #matrix to array
     S= np.array(nx.to_numpy_matrix(G,dtype=int))
     print(S)
     plt.clf()
     plt.cla()
     plt.close()

     #louvain
     communities, _ = louvain_method(S)
     draw_communities(S, communities,False,'C:/My Web
Sites/dashboard_CD_SENA/community/templates/admin/main/
source/static/louvain.png')
     print("communities")
     plt.clf()
     plt.cla()
     plt.close()
```

```
    #girvan
    import community as girvan_newman
    import matplotlib.cm as cm
    L=G
    partition = girvan_newman.best_partition(L)

    # draw the graph
    pos = nx.spring_layout(L)
    cmap = cm.get_cmap('viridis',
max(partition.values()) + 1)
    nx.draw_networkx_nodes(L, pos, partition.keys(),
node_size=40,
    cmap=cmap, node_color=list(partition.values()))
    nx.draw_networkx_edges(L, pos, alpha=0.5)
    plt.savefig('C:/My Web
Sites/dashboard_CD_SENA/community/templates/admin/main/
source/static/girvan.png')
    plt.clf()
    plt.cla()
    plt.close()

    #visualization
    #Highest_degree
    com = set(partition.values())
    c_dict = {c: [l for l,i in partition.items() if
i==c ] for c in com}
    highest_degree ={l: max(i, key=lambda
x:G.degree(x)) for l,i in c_dict.items()}
    a = []
    for i in range(0,len(highest_degree)):
       a.append([])
       for j in range(0,2):
               a[i].append([])

    for i in range(0,len(highest_degree)):
        a[i][0]=(highest_degree[i])
        a[i][1]=(G.degree(highest_degree[i]))
    length=[]
    for i in range(0,len(highest_degree)):
        length.append(i)

    f=[]
    i=0
    y=0
    #total no of communities
```

```
for i in partition:
  if partition[i] not in f:
    f.append(partition[i])
    y=y+1
#print("Total No of Communities: ", y)
#each community size
import numpy as np
l = np.zeros((y,), dtype=int)
for i in partition:
  k = partition[i]
  l[k]=l[k]+1

for i in range(0,y):
#print("Community ", i+1," Size: ")
  print(l[i])

#elements in each community
k=len(partition)#no of partitions
g=[]
for i in range(0,y):
   g.append(i)#list of communities

m=[]#community stored as list of lists
for x in range(0,y):
 print("Community: ",x+1)
 q=[]
 for j in partition.keys():
    if(partition[j]==x):
       q.append(j)
 m.append(q)

#generate bar graph
height = l
bars = range(len(l))
y_pos = np.arange(len(bars))

# Create bars
plt.bar(y_pos, height)

# Create names on the x-axis
plt.xticks(y_pos, bars)

plt.xlabel('Communities')
plt.ylabel('No. of nodes')
```

```
    plt.savefig('C:/My Web
Sites/dashboard_CD_SENA/community/templates/admin/main/
source/static/bargraph.png')
    plt.clf()
    plt.cla()
    plt.close()
    #calculating radius, diameter,center, periphery for
each community and image
    d=[]
    r=[]
    c=[]
    p=[]

    for i in range(0,len(highest_degree)):
        d.append([])
    for i in range(0,len(highest_degree)):
        r.append([])
    for i in range(0,len(highest_degree)):
        c.append([])
    for i in range(0,len(highest_degree)):
        p.append([])
    count=0

    for i in range(0,len(highest_degree)):
     L= G.copy()
     f='C:/Users/sanka/Downloads/cd_1/graph.txt'
     def removeG(L, file_, delimiter_):
            reader = csv.reader(open(file_),
delimiter=delimiter_)
            for line in reader:
                if partition[int(line[0])]!=i:
                 if partition[int(line[1])]!=i and
L.has_edge(int(line[0]),int(line[1])):

L.remove_edge(int(line[0]),int(line[1]))
                    L.remove_node(int(line[0]))
                    L.remove_node(int(line[1]))
                if partition[int(line[0])]!=i and
L.has_node(int(line[0])):
                    L.remove_node(int(line[0]))
                if partition[int(line[1])]!=i  and
L.has_node(int(line[1])):
                    L.remove_node(int(line[1]))

     removeG(L,f,' ')
```

```
    ecc = nx.eccentricity(L,v=None ,sp=None)
    k=nx.diameter(L,e=ecc)
    print(k)
    d[i].append(k)
    r[i].append(nx.radius(L,e=ecc))
    for k in nx.center(L,e=ecc):
       c[i].append(k)
    for k in nx.periphery(L,e=ecc):
       p[i].append(k)
    nx.draw_networkx(L, with_labels = True)
    f='C:/My Web
Sites/dashboard_CD_SENA/community/templates/admin/main/
source/static/community'+str(count)+'.png'
    count=count+1
    plt.savefig(f)
    plt.clf()
    plt.cla()
    plt.close()
```