In [17]:

```
# Using a Python dictionary to act as an adjacency list
graph = {
  'A' : ['C','D','B'],
  'C' : ['E'],
  'D' : ['F'],
  'B' : [],
  'E' : [],
  'F' : []
}

visited = set() # Set to keep track of visited nodes of graph.

def dfs(visited, graph, node):  #function for dfs
    if node not in visited:
        print (node)
        visited.add(node)
        for neighbour in graph[node]:
            dfs(visited, graph, neighbour)

# Driver Code
print("Following is the Depth-First Search")
dfs(visited, graph, 'A')
```

```
Following is the Depth-First Search
A
C
E
D
F
B
```

In [ ]:

```
```

In [27]:

```
```

```
  File <tokenize>:24
    queue.append(neighbour)
    ^
IndentationError: unindent does not match any outer indentation level
```

In [ ]:

```
```

In [2]:

```
graph = {
    '5':['3','7'],
    '3':['2','4'],
    '7':['8'],
    '2':[],
    '4':['8'],
    '8':[]
}

visited = []
queue = []

def bfs(visited,graph,node):
    visited.append(node)
    queue.append(node)

    while queue :
        m =queue.pop(0)
        print(m)

        for neighbour in graph[m]:
            if neighbour not in visited:
                visited.append(neighbour)
                queue.append(neighbour)

print("following is the breadth first search")
bfs(visited,graph,'5')
```

```
following is the breadth first search
5
3
7
2
4
8
```

In [11]:

```
graph = {
    '5':['3','7'],
    '3':['2','4'],
    '7':['8'],
    '2':[],
    '4':['8'],
    '8':[]
}
visited = set()

def dfs(visited,graph,node):
    if node not in visited:
        print(node)
        visited.add(node)
        for  neighbour in graph[node]:
            dfs(visited,graph,neighbour)

print("following is the depth first search:")
dfs(visited,graph,"5")
```

```
following is the depth first search:
5
3
2
4
8
7
```

In [7]:

```
def chatbot():
    print("I am Chatbot")
    while True:
        user=input("You: ")
        if user.lower()=="bye":
            print("Chatbot: Good bye...")
            break
        elif user.lower()=="hello":
            print("Chatbot: hello how are you!")
        elif user.lower()=="how are you":
            print("Chatbot: I am good what about you.")
        else:
            print("I cant understand")


chatbot()
```

```
I am Chatbot
You: hello
Chatbot: hello how are you!
You: how are you?
I cant understand
You: how are you
Chatbot: I am good what about you.
You: bye
Chatbot: Good bye...
```

In [ ]:

```

```