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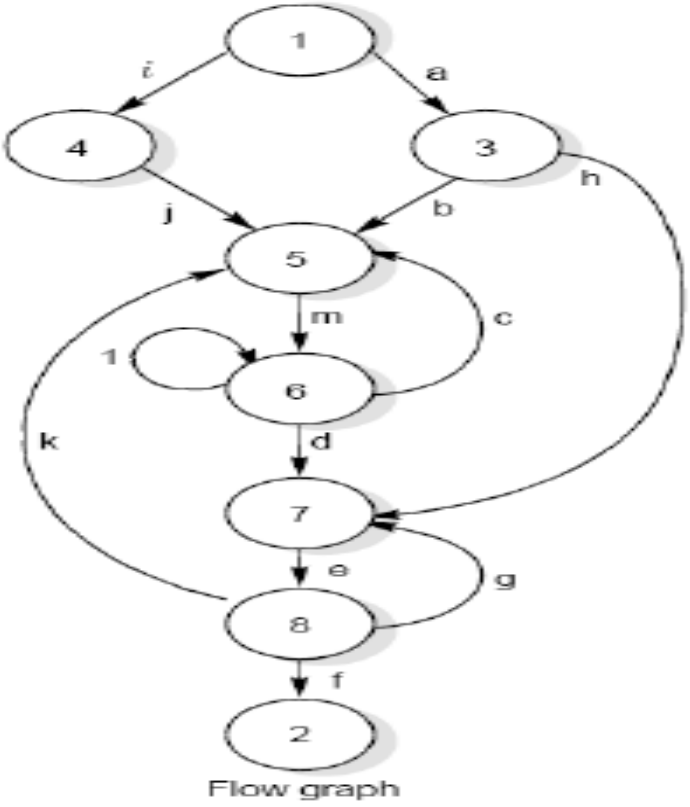
Assignment -3
(Based on Unit IV)
MCA-II Semester

Course Code: MCA 110 **Course Name: Software Engineering**

Q 1. Consider the following flow graph and draw the graph matrix & connection matrices. Also find out cyclomatic complexity.



Flow graph

Q 2. Consider the following C program

```
1.  #include<stdio.h>
2.  int main(){
3.  int i,j,s,temp,a[20];
4.  printf("Enter total elements: ");
5.  scanf("%d",&s);
6.  printf("Enter %d elements: ",s);
7.  for(i=0;i<s;i++)
8.  scanf("%d",&a[i]);
9.  for(i=1;i<s;i++){
10. temp=a[i];
```

```
11. j=i-1;
12. while((temp<a[j])&&(j>=0)){
13. a[j+1]=a[j];
14. j=j-1;
15. }
16. a[j+1]=temp;
17. }
18. printf("After sorting: ");
19. for(i=0;i<s;i++)
20. printf(" %d",a[i]);
21. return 0;
22. }
```

Draw Program Graph and Decision Graph. Make Graph Matrix. Demonstrate different method(s) for calculation Cyclomatic Complexity using same example.

Q 3. Discuss the various problems during maintenance. Describe some solutions to these Problems.

Q 4. Explain the boundary value analysis and robustness testing techniques with the help of an example.