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PROGRAM: Graph

Prims Algorithm

```
#include<stdio.h>
#include<stdbool.h>
#include<string.h>
#define INF 9999999

int main() {
   int n, i, j, G[10][10], s=0;
  int no_edge; // number of edge
  printf("Enter number of vertices");
  scanf("%d", &n);
  printf("Enter values for adjacency Matrix of Weighted Graph");
 for(i=0;i<n;i++)
 for(j=0;j<n;j++)
 scanf("%d",&G[i][j]);
  int selected[n];
  memset(selected, false, sizeof(selected));

  no_edge = 0;

  selected[0] = true;

  int x; // row number
  int y;

printf("Edge : Weight\n");
  while (no_edge < n- 1) {
    int min = INF;
    x = 0;
    y = 0;

    for (int i = 0; i < n; i++) {
      if (selected[i]) {
        for (int j = 0; j < n; j++) {
          if (!selected[j] && G[i][j]) {  // not in selected and there is an edge
            if (min > G[i][j]) {
              min = G[i][j];
```

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```
                x = i;
                y = j;
              }
            }
          }
        }
      }
      printf("%d - %d : %d\n", x, y, G[x][y]);
      s= s+G[x][y];
      selected[y] = true;
      no_edge++;
    }
  printf("The minimum spanning tree of given Graph is %d", s);
    return 0;
  }
```