Assignment No: - 7
Assignment Name:-Write a program for matrix multiplication using strassen's matric mltiplication
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```
#include<iostream.h>
#include<conio.h>

class MAT
{
	private:
		int A[3][3],B[3][3],C[3][3];
	public:
		MAT();
		void READ();
		void SHOW();
		void ST_MAT();
};

void MAT::MAT()
{
	for(int i=1;i<=2;i++)
	{
		for(int j=1;j<=2;j++)
		{
			C[i][j] = 0;
		}
	}
}

void MAT::READ()
{
	cout<<"\nEnter values for first matrix: ";
	for(int i=1;i<=2;i++)
	{
		for(int j=1;j<=2;j++)
		{
			cin>>A[i][j];
		}
	}
	cout<<"\nEnter values for second matrix: ";
	for(i=1;i<=2;i++)
	{
		for(int j=1;j<=2;j++)
		{
			cin>>B[i][j];
		}
```

```
        }
}

void MAT::SHOW()
{
        cout<<"\nThe first matrix: ";
        for(int i=1;i<=2;i++)
        {
                cout<<endl;
                for(int j=1;j<=2;j++)
                {
                        cout<<A[i][j]<<"\t";
                }
        }

        cout<<"\nThe second matrix: ";
        for(i=1;i<=2;i++)
        {
                cout<<endl;
                for(int j=1;j<=2;j++)
                {
                        cout<<B[i][j]<<"\t";
                }
        }
        cout<<"\nThe result matrix: ";
        for(i=1;i<=2;i++)
        {
                cout<<endl;
                for(int j=1;j<=2;j++)
                {
                        cout<<C[i][j]<<"\t";
                }
        }
}
//---------------------------------------------------------------------
void MAT:: ST_MAT()
{
        int P = (A[1][1] + A[2][2]) * (B[1][1] + B[2][2]) ;
        int Q = (A[2][1] + A[2][2]) * B[1][1];
        int R = A[1][1] * (B[1][2] - B[2][2]);
        int S = A[2][2] * (B[2][1] - B[1][1]);
        int T = (A[1][1] + A[1][2]) * B[2][2];
        int U = (A[2][1] - A[1][1]) * (B[1][1] + B[1][2]);
        int V = (A[1][2] - A[2][2]) * (B[2][1] + B[2][2]);

        C[1][1] = P + S - T + V;
        C[1][2] = R + T;
        C[2][1] = Q + S;
        C[2][2] = P + R - Q + U;
```

```
}
//---------------------------------------------------------------
void main()
{
        clrscr();
        MAT obj;
        obj.READ();
        obj.ST_MAT();
        obj.SHOW();
        getch();
}
```