```
> restart;
> with(LinearAlgebra):
> A:=ImportMatrix("C:/Users/Dimitris/Documents/My Work
  Files/Maple_Work/Maple Worksheets/Hadamard/D-Optimal
  Designs/D_optimal_9.dat", source=MATLAB):
```

Search for H8 in D9

```
> n,m,p := 9,8,32;
```

$$n, m, p := 9, 8, 32 \quad (1)$$

```
> P:=combinat[choose](n,m):
  np:=combinat[numbcomb](n,m);
```

$$np := 9 \quad (1.1)$$

```
> for i from 1 to np do
>     for j from 1 to np do
>         M := SubMatrix(A,P[i],P[j]);
>                     det := abs( Determinant(M));
>                     if det = p*2^(m-1) then
>                                 print(i,j,det);
>                     fi;
>     od;
> od;print("END");
```

8, 8, 4096

9, 9, 4096

"END" (1.2)

```
> P[8];
```

$$[1, 3, 4, 5, 6, 7, 8, 9] \quad (2)$$

```
> P[9];
```

$$[2, 3, 4, 5, 6, 7, 8, 9] \quad (3)$$

```
> M1 := SubMatrix(A,P[8],P[8]):
> M2 := SubMatrix(A,P[9],P[9]):
```