```
float * matrix_mul(float *h_a, float *h_b, float *h_c, int width)
{
  for(int row = 0; row < width ; ++row)
    {
      for(int col = 0; col < width ; ++col)
        {
          float single_entry = 0;
          for(int i = 0; i < width ; ++i)
            {
              single_entry += h_a[row*width+i] * h_b[i*width+col];
            }
          h_c[row*width+col] = single_entry;
        }
    }
  return h_c;
}
```