

```
#ifndef SHAPE_H
#define SHAPE_H
#include <stdio.h>

struct Point {
    double x, y;
};

struct Polygon {
    int npoints;
    struct Point *vertex;
};

// polygon function prototypes
int polygon_draw(FILE *fp, struct Polygon polygon);
void polygon_free(struct Polygon *polygon);
int polygon_sprintf(char *stream, struct Polygon polygon);
int polygon_sscanf(char *stream, struct Polygon *polygon);
int polygon_fprintf(FILE *fp, struct Polygon polygon);
int polygon_fscanf(FILE *fp, struct Polygon *polygon);
// end of function prototypes

double distance(struct Point p, struct Point q);
int convert(struct Point *p, int n, int *x, int *y);
char* fgetshape();

#endif
```