Function Reference Sheet

(Note: you are welcome to use functions that are not listed on this page, unless they have been expressly prohibited)

```
/* Copies at most 'n' characters from 'src' (including the terminating '\0' character) to 'dest'. */
strncpy(char *dest, const char *src, size_t n);

/* Appends at most 'n' characters from 'src' to 'dest', and then adds a terminating '\0' character. */
strncat(char *dest, const char *src, size_t n);

/* Calculates the length of 's', not including the terminating '\0' character. */
size_t strlen(const char *s);

/* Compares the two strings 's1' and 's2'.  Returns an integer less than, equal to, or greater than zero if 's1' is found
 * to be less than, equal to, or greater than 's2'. */
int strcmp(const char *s1, const char *s2);


/* Allocates 'size' bytes, and returns a pointer to the allocated memory. */
void *malloc(size_t size);

/* Frees the memory space pointed to by 'ptr'.
void free(void *ptr);

/* Changes the size of the memory block pointed to by 'ptr' to 'size' bytes, and returns a pointer to the allocated memory. */
void *realloc(void *ptr, size_t size);


/* Reads in at most 'size' - 1 characters from 'stream', and stores them in 's'.  Reading stops after a newline, which is
 * stored in 's'.  's' will be null terminated. */
fgets(char *s, int size, FILE *stream);


/* Returns a pseudo-random int between 0 and RAND_MAX. */
int rand(void);

/* Sets the seed of the PRNG to 'seed'. */
void srand(int seed);

/* Returns the cosine of 'x', which is in radians. */
double cos(double x);

/* Returns the sine of 'x', which is in radians. */
double sin(double x);

/* Returns the tangent of 'x', which is in radians. */
double tan(double x);

/* Rounds 'x' to an integer value. */
double rint(double x);

/* Rounds 'x' up to the nearest integer value. */
double ceil(double x);

/* Rounds 'x' down to the nearest integer value. */
double floor(double x);

/* Returns the absolute value of 'x'. */
int abs(int x);

/* Returns the absolute value of 'x'. */
double fabs(double x);

/* Returns the natural logarithm of 'x'. */
double log(double x);

/* Returns e raised to the power of 'x'. */
double exp(double x);

/* Returns 'x' raised to the power of 'y'. */
double pow(double x, double y);

/* Returns the square root of 'x'. */
double sqrt(double x);


/* Checks if 'c' is an alphabetic character. */
int isalpha(int c);

/* Checks if 'c' is a digit. */
int isdigit(int c);

/* Checks if 'c' is an upper case letter. */
int isupper(int c);

/* Checks if 'c' is a lower case letter. */
int islower(int c);

/* Converts 'c' to upper case, if possible. */
int toupper(int c);

/* Converts 'c' to lower case, if possible. */
int tolower(int c);
```