

CS107 Exam C Reference Sheet

C Strings

```
size_t strlen(const char *str);
int    strcmp(const char *s, const char *t);
int    strncmp(const char *s, const char *t, size_t n);
char   *strchr(const char *s, int ch);
char   *strstr(const char *haystack, const char *needle);
char   *strcpy(char *dst, const char *src);
char   *strncpy(char *dst, const char *src, size_t n);
char   *strcat(char *dst, const char *src);
char   *strncat(char *dst, const char *src, size_t n);
size_t strspn(const char *s, const char *accept);
size_t strcspn(const char *s, const char *reject);
char   *strdup(const char *s);
```

```
int atoi(const char *s);
long strtol(const char *s, char **endptr, int base);
```

Memory

```
void *malloc(size_t sz);
void *calloc(size_t nmemb, size_t sz);
void *realloc(void *ptr, size_t sz);
void free(void *ptr);

void *memcpy(void *dst, const void *src, size_t n);
void *memmove(void *dst, const void *src, size_t n);
void *memset(void *base, int byte, size_t n);
```

Search and Sort

```
void qsort(void *base, size_t nelems, size_t width,
           int (*compar)(const void *, const void *));
void *bsearch(const void *key, const void *base, size_t nelems, size_t width,
             int (*compar)(const void *, const void *));
void *lfind(const void *key, const void *base, size_t *p_nelems, size_t width,
           int(*compar)(const void *, const void *));
void *lsearch(const void *key, void *base, size_t *p_nelems, size_t width,
            int(*compar)(const void *, const void *));
```

I/O

```
char *fgets(char buf[], int buflen, FILE *fp);
```

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Defined Constants

```
#define CHAR_MIN -128  
#define CHAR_MAX 127  
#define UCHAR_MAX 255
```

```
#define SHRT_MIN -32768  
#define SHRT_MAX 32767  
#define USHRT_MAX 65535
```

```
#define INT_MIN -2147483648  
#define INT_MAX 2147483647  
#define UINT_MAX 4294967295
```

```
#define LONG_MIN -9223372036854775808  
#define LONG_MAX 9223372036854775807  
#define ULONG_MAX 18446744073709551615
```