```
CS 1723, FALL 1998, EXAM 2 ANSWERS
-- ----  ---- ----  ---- - -------

PROBLEM 1:
(a)  234*+  (* has precedence over +)
(b)  43*2*  (* associated left-to-right)
     432^^  (^ associates right-to_left)
--------------------------------------------------------
PROBLEM 2:
runner% cat exam2_2.c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
struct lnode {
   char *word;
   struct lnode *next;
};
struct lnode *insert(char *w, struct lnode *p);
void printlist(struct lnode *);
void printreverse(struct lnode *);

void main(void)
{
   struct lnode *p = NULL;
   char w[100];
   while (scanf("%s", w) != EOF)
      p = insert(w, p);
   printlist(p);
   printreverse(p);
   printf("\n");
}

struct lnode *insert(char *w, struct lnode *p)
{
   struct lnode *r = (struct lnode *)
      malloc(sizeof(struct lnode));
   r -> next = p;
   r -> word = malloc(strlen(w) + 1);
   strcpy(r -> word, w);
   return r;
}

void printlist(struct lnode *p)
{
   while (p != NULL) {  /* or just while (p) */
      printf("%s ", p -> word);
      p = p -> next;
   }
   printf("\n");
}
void printreverse(struct lnode *p)
{
   if (p != NULL) {  /* or just if (p) */
      printreverse(p -> next);
      printf("%s ", p -> word);
   }
}
runner% cc -o exam2_2 exam2_2.c
runner% exam2_2
Now is the time for all good men   (ctrl-d)
men good all for time the is Now
Now is the time for all good men
runner%

--------------------------------------------------------
```

```
PROBLEM 3:
runner% cat exam2_3.c
* Weeks program */
#include <stdio.h>

void main(void)
{
   int i;
   char *weeks[] = {"none", "Mon", "Tue",
      "Wed", "Thu", "Fri", "Sat", "Sun", NULL};
   char **p;
   for(i = 1; i < 8; i++)
      printf("%s  ", weeks[i]);
   printf("\n");
   for(i = 1; i < 8; i++)
      printf("%s  ", *(weeks + i));
   printf("\n");
   p = &weeks[1];    /* or  p = weeks + 1;  */
   while (*p != NULL)     /* or  while (*p) */
      printf("%s  ", *(p++));  /* or  *p++  */
   printf("\n");
}
runner% cc -o exam2_3 exam2_3.c
runner% exam2_3
Mon  Tue  Wed  Thu  Fri  Sat  Sun
Mon  Tue  Wed  Thu  Fri  Sat  Sun
Mon  Tue  Wed  Thu  Fri  Sat  Sun
runner%
```