PROBLEM 1:

```
(a) cc is the compile step
(b)-o prog says to name the executable "prog"
(c) runner% prog
(d) runner% prog > outfile
```

PROBLEM 2:

```
runner% cat exam1_2.c
#include <stdio.h>

double ftoc(double F);

void main(void)
{
   double F, C;
   scanf("%lf", &F);
   C = ftoc(F);
   printf("Fahrenheit: %.2f = Centigrade: %.2f\n",
      F, C);
}
double ftoc(double F)
{
   double C;
   C = (5.0/9.0)*(F - 32.0);
   return C;
}
runner% cc -o exam1_2 exam1_2.c
runner% exam1_2
212
Fahrenheit: 212.00 = Centigrade: 100.00
runner% exam1_2
32
Fahrenheit: 32.00 = Centigrade: 0.00
runner% exam1_2
-40
Fahrenheit: -40.00 = Centigrade: -40.00
runner% exam1_2
98.6
Fahrenheit: 98.60 = Centigrade: 37.00
```

```
runner% cat exam1_2.2.c
/* Another version */
#include <stdio.h>
double ftoc(double F);
void main(void)
{
   double F;
   scanf("%lf", &F);
   printf("Fahrenheit: %.2f = Centigrade: %.2f\n",
      F, ftoc(F));
}
double ftoc(double F)
{
   return (5.0/9.0)*(F - 32.0);
}
```

PROBLEM 3:

```
runner% cat exam1_3.c
#include <stdio.h>

void main(void)
{
   int n;
   int i = 1;
   scanf("%i", &n);
   while (i <= n) {
      printf("%i ", i);
      i = i + 2;
   }
   printf("\n");
}
runner% cc -o exam1_3 exam1_3.c
runner% exam1_3
27
1 3 5 7 9 11 13 15 17 19 21 23 25 27
runner% exam1_3
28
1 3 5 7 9 11 13 15 17 19 21 23 25 27
runner%
```

PROBLEM 4:

```
runner% cat exam1_4.c
#include <stdio.h>

void main(void)
{
   int ave;
   char grade;
   while (scanf("%i", &ave) != EOF) {
      if (ave > 100) grade = 'N';
      else if (ave >= 90 && ave <= 100) grade = 'A';
      else if (ave >= 80 && ave <=  89) grade = 'B';
      else if (ave >= 70 && ave <=  79) grade = 'C';
      else if (ave >= 60 && ave <=  69) grade = 'D';
      else if (ave >=  0 && ave <=  59) grade = 'F';
      else if (ave < 0) grade = 'N';
      printf("Ave:%3i, Grade: %c\n", ave, grade);
   }
}
runner% cc -o exam1_4 exam1_4.c
runner% exam1_4
110
Ave:110, Grade: N
101
Ave:101, Grade: N
100
Ave:100, Grade: A
90
Ave: 90, Grade: A
89
Ave: 89, Grade: B
80
Ave: 80, Grade: B
79
Ave: 79, Grade: C
70
Ave: 70, Grade: C
69
Ave: 69, Grade: D
60
Ave: 60, Grade: D
59
Ave: 59, Grade: F
30
Ave: 30, Grade: F
0
Ave:  0, Grade: F
-1
Ave: -1, Grade: N
(ctrl-D entered)
runner% cat exam1_4.2.c
/* Another version */
#include <stdio.h>

void main(void)
{
   int ave;
   char grade;
   while (scanf("%i", &ave) != EOF) {
      if (ave > 100) grade = 'N';
      else if (ave >= 90) grade = 'A';
      else if (ave >= 80) grade = 'B';
      else if (ave >= 70) grade = 'C';
      else if (ave >= 60) grade = 'D';
      else if (ave >=  0) grade = 'F';
      else                grade = 'N';
      printf("Ave:%3i, Grade: %c\n", ave, grade);
   }
}
```