

1. 問題 2-1

プログラムコード

```
#include<stdio.h>

#define RATE 103.5

int main(void) {
    printf("dollar = ");
    int dollar;
    scanf("%d", &dollar);
    int yen = (int) (dollar * RATE);

    printf("exchanged: %d yen\n", yen);

    printf("%5dyen:%d\n", 10000, yen/10000);
    yen = yen%10000;
    printf("%5dyen:%d\n", 5000, yen/5000);
    yen = yen%5000;
    printf("%5dyen:%d\n", 2000, yen/2000);
    yen = yen%2000;
    printf("%5dyen:%d\n", 1000, yen/1000);
    yen = yen%1000;
    printf("%5dyen:%d\n", 500, yen/500);
    yen = yen%500;
    printf("%5dyen:%d\n", 100, yen/100);
    yen = yen%100;
    printf("%5dyen:%d\n", 50, yen/50);
    yen = yen%50;
    printf("%5dyen:%d\n", 10, yen/10);
    yen = yen%10;
    printf("%5dyen:%d\n", 5, yen/5);
    yen = yen%5;
    printf("%5dyen:%d\n", 1, yen);

    return 0;
}
```

実行結果

```
[hk011075@red99 ~/IP]$ ./ip2-1
dollar = 125
exchanged: 12937 yen
10000yen:1
 5000yen:0
 2000yen:1
 1000yen:0
  500yen:1
  100yen:4
   50yen:0
   10yen:3
    5yen:1
    1yen:2
[hk011075@red99 ~/IP]$ ./ip2-1
dollar = 72
exchanged: 7452 yen
10000yen:0
 5000yen:1
 2000yen:1
 1000yen:0
  500yen:0
  100yen:4
   50yen:1
   10yen:0
    5yen:0
    1yen:2
```

2. 問題 2-2

プログラムコード

```
#include<stdio.h>
int main(void) {
    int n, r, p, c;
    printf("n = ");
    scanf("%d", &n);
    printf("r = ");
    scanf("%d", &r);
    int cards[n], cardsx[n];
    int i, j;
    for (i = 1; i <= n; i++) {
        cards[n-i] = i;
    }
    for (i = 0; i < r; i++) {
        printf("p = ");
        scanf("%d", &p);
        printf("c = ");
        scanf("%d", &c);
        for (j = 0; j < c; j++) {
            cardsx[j] = cards[p-1+j];
        }
        for (j = 0; j < p; j++) {
            cardsx[c+j] = cards[j];
        }
        for (j = p+c-1; j < n; j++) {
            cardsx[j] = cards[j];
        }
        for (j = 0; j < n; j++) {
            cards[j] = cardsx[j];
        }
    }
    printf("card: %d\n", cards[0]);
    return 0;
}
```

実行結果

```
[hk011075@red99 ~/IP]$ ./ip2-2
n = 5
r = 2
p = 3
c = 1
p = 3
c = 1
card: 4
[hk011075@red99 ~/IP]$ ./ip2-2
n = 10
r = 3
p = 1
c = 10
p = 10
c = 1
p = 8
c = 3
card: 4
[hk011075@red99 ~/IP]$ ./ip2-2
n = 15
r = 4
p = 3
c = 7
p = 4
c = 2
p = 6
c = 5
p = 4
c = 3
card: 14
```

3. 問題 2-3

プログラムコード

```
#include<stdio.h>

int main(void) {
    int n, p;
    printf("n = ");
    scanf("%d", &n);
    printf("p = ");
    scanf("%d", &p);

    if((n<3) || (50<n) || (p<2) || (50<p)) {
        return 0;
    }

    int i;

    int ishi[n];
    for(i = 0; i < n; i++) {
        ishi[i] = 0;
    }
    int bowl = p;

    for(i = 0; i < 1000000; i++) {
        if(bowl > 0) {
            ishi[i%n]++;
            bowl--;
        } else {
            bowl += ishi[i%n];
            ishi[i%n] = 0;
        }

        if(ishi[i%n] == p) {
            printf("winer: %d\n", i%n);
            break;
        }
    }

    return 0;
}
```

実行結果

```
[hk011075@red99 ~/IP]$ ./ip2-3
n = 3
p = 2
winer: 1
[hk011075@red99 ~/IP]$ ./ip2-3
n = 50
p = 50
winer: 13
[hk011075@red99 ~/IP]$ ./ip2-3
n = 34
p = 21
winer: 31
[hk011075@red99 ~/IP]$ ./ip2-3
n = 45
p = 33
winer: 18
[hk011075@red99 ~/IP]$ ./ip2-3
n = 65
p = 3
[hk011075@red99 ~/IP]$ ./ip2-3
n = 35
p = 60
```