

Notes for Tuesday 5 April

07 April 2011

- Meeting 20
- Quiz 6

Pass by reference (the C++ way).

We skipped Quiz 6.

Solution to Blackjack assignment

```
#include <stdio.h>
#include <stdlib.h>
#include <time.h>

int deal_a_card();
int rank_to_score(int rank);

int main5()
{
    int c1, c2, c3, score;
    srand(time(NULL));
    c1 = deal_a_card();
    c2 = deal_a_card();
    c3 = deal_a_card();
    score = rank_to_score (c1)
           + rank_to_score(c2)
           + rank_to_score(c3);
    if( (c1 == 1 || c2 == 1 || c3 == 1)
        && score <= 11 )
    {
        printf("One ace counted high.\n");
        score += 10; // one ace goes high
    }
    printf("Your score is %d\n", score);
    if( score > 21 )
    {
        printf("You LOSE.\n");
    }
    return 0;
}

int deal_a_card()
{
```

```
int rank = rand()%13+1;
int suit = rand()%4;

switch (rank)
{
    case 1: printf("Ace");    break;
    case 11: printf("Jack");  break;
    case 12: printf("Queen"); break;
    case 13: printf("King");  break;
    default:
        printf("%d", rank);
        break;
}
switch (suit)
{
    case 0: printf(" Of Diamonds"); break;
    case 1: printf(" Of Hearts");    break;
    case 2: printf(" Of Spades");    break;
    case 3: printf(" Of Clubs");     break;
}
printf("\n");
return rank;
}

int rank_to_score (int rank)
{
    switch (rank)
    {
        case 11:
        case 12:
        case 13:
            return 10;
        default:
            return rank;
    }
}
```

Example with reference parameters

```
#include <stdio.h>
#include <stdlib.h>
#include <time.h>

// these are REFERENCE parameters, AKA
// "in-out" parameters. They get bound
```

```
// to the variables provided at the call.
void deal_card(int& rank, int& suit)
{
    rank = rand()%13+1;
    suit = rand()%4;
    switch (rank)
    {
        case 1: printf("Ace"); break;
        case 11: printf("Jack"); break;
        case 12: printf("Queen"); break;
        case 13: printf("King"); break;
        default:
            printf("%d", rank);
            break;
    }
    switch (suit)
    {
        case 0: printf(" Of Diamonds"); break;
        case 1: printf(" Of Hearts"); break;
        case 2: printf(" Of Spades"); break;
        case 3: printf(" Of Clubs"); break;
    }
    printf("\n");
}

int main()
{
    int r1, s1, r2, s2;
    srand(time(NULL));
    deal_card(r1, s1);
    deal_card(r2, s2);
    //deal_card(5, 2); // ERROR
    if(s1 == s2)
    {
        printf("FLUSH\n");
    }
    else if(r1 == r2)
    {
        printf("PAIR\n");
    }
    else
    {
        printf("Nothing.\n");
    }
    return 0;
}
```

}