East West University
Department of Computer Science and Engineering

Course: CSE 246(Algorithms)
Section - 02

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Lab Report:05

Coin Change Problem:

```cpp
#include <bits/stdc++.h>
using namespace std;
int coinChange(int coin[],int n,int amount){
    sort(coin,coin+n,greater<int>());

    int count=0;

    for(int i=0;i<n; i++){
        if(amount==0){
            break;
        }
        int take = amount / coin[i];
        count += take;
        amount -= take * coin[i];
    }

    if (amount != 0){
        return -1;
    }
    return count;


}

int main() {
    int coins[] = {1, 5, 10};
    int n = 3;
    int amount;

    cout << "Enter amount: ";
    cin >> amount;


    int result = coinChange(coins, n, amount);

    if (result != -1)
        cout << "Minimum number of coins : " << result << endl;
    else
        cout << "Exact change is not possible with given denominations." << endl;

    return 0;
}
```

Output:

```
Enter amount: 65
Minimum number of coins : 7

Process returned 0 (0x0)   execution time : 5.186 s
Press any key to continue.
```