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Assignment#2 - Coin Change Problem Implementation using Dynamic Programming in any of your preferred Programming Language (C/C++/Java)

Code:

#include<bits/stdc++.h>

using namespace std;

void coin\_change(int a, int b, int c[])

{

int dp\_table[b+1][a+1];

for(int i=0;i<=b;i++)

{

for(int j=0;j<=a;j++)

{

if((i==0) && (j==0))

{

dp\_table[i][j] = 1;

}

else if ((i==0) && (j!=0))

{

dp\_table[i][j] = 0;

}

else if (c[i-1]>j)

{

dp\_table[i][j] = dp\_table[i-1][j];

}

else

{

dp\_table[i][j] = dp\_table[i-1][j] + dp\_table[i][j-c[i-1]];

}

}

}

cout <<endl<<"table :"<<endl;

for(int i=0;i<=b;i++)

{

for(int j=0;j<=a;j++)

{

cout<<" "<<dp\_table[i][j];

}

cout<<endl;

}

cout<<endl<<"Maximum count for "<<a<<" unit is = "<<dp\_table[b][a];

cout<<endl;

}

int main()

{

cout<<"inter your unit number = ";

int unit;

cin>>unit;

int coins[] = {1, 2, 3, 5};

int size = sizeof(coins)/sizeof(int);

coin\_change(unit, size, coins);

return 0;

}

Output:

