

## Practical:-7

- Implement Program for “Making Change” using Greedy design technique

Code:-

```
#include <stdio.h>
int C[]={1,5,10,25,100};

void make_change(int n);
int bestsol(int,int);

void main()
{
    int n;
    printf("\n ");
    printf("\n MAKING CHANGE USING GREEDY ALGORITHM ");
    printf("\n ");
    printf("\n Enter amount you want:");
    scanf("%d",&n);
    make_change(n);
}

void make_change(int n)
{
    int S[100],s=0,x,ind=0,i;
    printf("\n-----AVAILABLE COINS  \n");

    for(i=0;i<= 4;i++)
        printf("%5d",C[i]);

    printf("\n ");

    while(s!=n)
    {
        x=bestsol(s,n);
        if(x==-1)
        {}
        else
        {
            S[ind++]=x;
            s=s+x;
        }
    }
    printf("\n-----MAKING CHANGE FOR %4d  ",n);
    for(i=0;i < ind;i++)
    {
        printf("\n%5d",S[i]);
    }
}
```

```
printf("\n ");
}

int bestsol(int s,int n)
{
    int i;
    for(i=4;i>-1;i--)
    {
        if((s+C[i]) <= n) return C[i] ;
    }
    return -1;
}
```

Output:-

```
-----
      MAKING CHANGE USING GREEDY ALGORITHM
-----
Enter amount you want:196
-----AVAILABLE COINS-----
      1      5     10     25    100
-----
-----MAKING CHANGE FOR  196-----
100
25
25
25
10
10
1
-----
```