b)

```
<<<<<<<<<<<<<Part_b>>>>>>>>>>>>>
M_low:10 11 60 70
M_none:0 10 50 60
M_high:5 50 15 51
Maximum_revenue:70
```

Above I have solution to subproblems
Answer is:

M_low:	10	11	60	70
M_none:	0	10	50	60
M_high:	5	50	15	51

Maximum_revenue: 70

And below I have code to obtain the result.

```cpp
int main()
{
        int size=0;

        cout<<endl<<"input as"<<endl;
        cout<<"input size:4"<<endl;
        cout<<"low:10 1 10 10"<<endl;
        cout<<"high:5 50 5 1"<<endl<<endl;

        cout<<"input size:";
        cin>>size;
        int low[size];
        int high[size];
        int none[size]={0};

        cout<<"low:";
        for(int i=0; i<size; i++)
                cin>>low[i];

        cout<<"high:";
        for(int i=0; i<size; i++)
                cin>>high[i];

        part_b(low, high, none, size);

        return 0;
}
```

```cpp
void part_b(int low[],int high[],int none[], int size)
{
        int M1[size]={0};
        int M2[size]={0};
        int M3[size]={0};
        int I1[size-1]={0};
        int I2[size-1]={0};
        int I3[size-1]={0};
        string stress[3]={"low","none","high"};
        int Iall[size]={0};
        string stressprint[size]={""};
        M1[0]=low[0];
        M2[0]=none[0];
        M3[0]=high[0];

        int index;
        for(int i=1; i<size; i++)
        {
                M1[i]=max(M1[i-1]+low[i], M2[i-1]+low[i], M3[i-1]+low[i], index);
                I1[i-1]=index;

                M2[i]=max(M1[i-1]+none[i], M2[i-1]+none[i], M3[i-1]+none[i], index);
                I2[i-1]=index;

                M3[i]=M2[i-1]+high[i];
                I3[i-1]=1;
        }
        cout<<endl<<"<<<<<<<<<<<<<<<Part_b>>>>>>>>>>>>>>>"<<endl;
        for(int j=0; j<3; j++)
        {
                if(j==0)
                        cout<<"M_low:";
                if(j==1)
                        cout<<"M_none:";
                if(j==2)
                        cout<<"M_high:";

                for(int i=0; i<size; i++)
                {
                        if(j==0)
                                cout<<M1[i]<<" ";
                        if(j==1)
                                cout<<M2[i]<<" ";
                        if(j==2)
                                cout<<M3[i]<<" ";
                }
                cout<<endl;
        }
        cout<<"Maximum_revenue:"<<max(M1[size-1],M2[size-1],M3[size-1], index)<<endl;
```

c)

```
<<<<<<<<<<<<<Part_c>>>>>>>>>>>>>>
M_low: 10 11(l)   60(h)   70(l)
M_none: 0 10(l)   50(h)   60(l)
M_high: 5 50(n)   15(n)   51(n)
```

Above I have solution to subproblems
Answer is:

M_low:	10	11(l)	60(h)	70(l)
M_none:	0	10(h)	50(h)	60(l)
M_high:	5	50(n)	15(n)	51(n)

here l, h, n, stands for low, high, none respectively.
11(l) means, in order to obtain this result we used solution to subproblem low from previous week.

And below I have code to obtain the result.

```cpp
cout<<endl<<"<<<<<<<<<<<<<<Part_c>>>>>>>>>>>>>>"<<endl;
for(int j=0; j<3; j++){
    if(j==0)
        cout<<"M_low:";
    if(j==1)
        cout<<"M_none:";
    if(j==2)
        cout<<"M_high:";
    for(int i=0; i<size; i++){
        if(j==0){
            cout<<" "<<M1[i];
            if(i>=1 && I1[i-1]==0)
                cout<<("(l) ");
            if(i>=1 && I1[i-1]==1)
                cout<<("(n) ");
            if(i>=1 && I1[i-1]==2)
                cout<<("(h) ");}
        if(j==1){
            cout<<" "<<M2[i];
            if(i>=1 && I2[i-1]==0)
                cout<<("(l) ");
            if(i>=1 && I2[i-1]==1)
                cout<<("(n) ");
            if(i>=1 && I2[i-1]==2)
                cout<<("(h) ");}
        if(j==2){
            cout<<" "<<M3[i];
            if(i>=1 && I3[i-1]==0)
                cout<<("(l) ");
            if(i>=1 && I3[i-1]==1)
                cout<<("(n) ");
            if(i>=1 && I3[i-1]==2)
                cout<<("(h) ");
        }
    }cout<<endl;
}
```

d)

```
<<<<<<<<<<<<<Part_d>>>>>>>>>>>>>
w:none high low low
```

Above I have solution to subproblems
Answer is:

      w: none high low   low

which corresponds to

      w: 0(none)   50(high)   60(low)   70(low)

And below I have code to obtain the result.

```
cout<<endl<<"<<<<<<<<<<<<<<Part_d>>>>>>>>>>>>>>"<<endl;
int oo=max(M1[size-1],M2[size-1],M3[size-1], index);
stressprint[size-1]=stress[index];
for(int j=size-2; j>=0; j--)
{
        if(index==0)
        {
                stressprint[j]=stress[I1[j]];
                index=I1[j];
        }
        else if(index==1)
        {
                stressprint[j]=stress[I2[j]];
                index=I2[j];
        }
        else if(index==2)
        {
                //cout<<stress[I3[j]]<<" ";
                stressprint[j]=stress[I3[j]];
                index=I3[j];
        }
}
cout<<"w:";
for(int s=0; s<size; s++)
        cout<<stressprint[s]<<" ";
cout<<endl;
}
```