Kunci Jawaban

Bagian A

1. 67305 (2 menit)
2. 15 (3 menit)
3. ABDE (3 menit)
4. 14580 (2 menit)
5. 7 (3 menit)
6. 11 (4 menit)
7. S (5 menit)
8. 3 (1 menit)
9. 65 (4 menit)
10. 20801 (5 menit)

Bagian B

B1. Buah

15 menit

1. 3
2. 150
3. 50

```
#include <bits/stdc++.h>
using namespace std;

int main() {
  int N, A, B;
  cin >> N >> A >> B;
  for (int i = 1; i <= N; i++) {
    if (A * i % B == 0) {
      cout << i + A * i / B << endl;
      break;
    }
  }
}
```

B2. Kartu

20 menit

4. YA
5. TIDAK
6. 6

```
#include <bits/stdc++.h>
using namespace std;

int fpb(int x,int y) {
  if (x == 0) {
    return y;
  }
  return fpb(y%x, x);
}

int main() {
  int A, B;
  cin >> A >> B;
  cout << fpb(A, B) << endl;
}
```

B3. Vitamin

30 menit

1. 34
2. 38
3. 69

```
#include <bits/stdc++.h>
using namespace std;

const int MAXN=1e3+5, MAXM=1e4+5;

int N, M;
int H[MAXN];
int K[MAXN];
int D[MAXN];
int DP[MAXN][MAXM];

int main() {
  cin>>N>>M;
  for (int i=1;i<=N;i++) {
    cin>>H[i]>>K[i]>>D[i];
    for (int j=1;j<=M;j++) {
      DP[i][j]=DP[i-1][j];
      if (j>=H[i]) {
        DP[i][j]=max(DP[i][j],DP[i-D[i]][j-H[i]]+K[i]);
      }
    }
  }
  cout<<DP[N][M]<<'\n';
}
```

B4. Paket

40 menit

1. 9
2. 5
3. 5

```
#include <bits/stdc++.h>
using namespace std;

const int MAXN=1e5+5;

int N, B;
set <int> S;

int main() {
  cin>>N;
  for (int i=1;i<=N;i++) {
    cin>>B;
    auto it=S.lower_bound(B);
    if (it!=S.end()) {
      S.erase(it);
    }
    S.insert(B);
  }
  cout<<S.size()<<endl;
}
```

B5. Suhu

45 menit

1. 7/2
2. 5
3. 7/5

```
#include <bits/stdc++.h>
using namespace std;

const double AWA=0, AKH=1e9+5, EPS=1e-12;

int N, Q;
long long M, A, B, K, H;
long long HX, HY, PX, PY;
double awa, akh, cen;

int main() {
  cin>>N>>M>>A>>B>>Q;
  for (int i=1;i<=Q;i++) {
    cin>>K;
    awa=AWA;
    akh=AKH;
    while (akh-awa>EPS) {
      cen=(awa+akh)/2;
      H=0;
      PX=0;
      PY=1;
      for (int j=1;j<=N;j++) {
        long long X=floor(cen*(A+j));
        if (X*PY>PX*(A+j)) {
          PX=X;
          PY=A+j;
        }
        H+=min(M,max(0LL,X-B));
      }
      if (H<K) {
        awa=cen;
      }
      else {
        akh=cen;
        HX=PX;
        HY=PY;
      }
    }
    H=__gcd(HX,HY);
    cout<<HX/H<<' '<<HY/H<<'\n';
  }
}
```