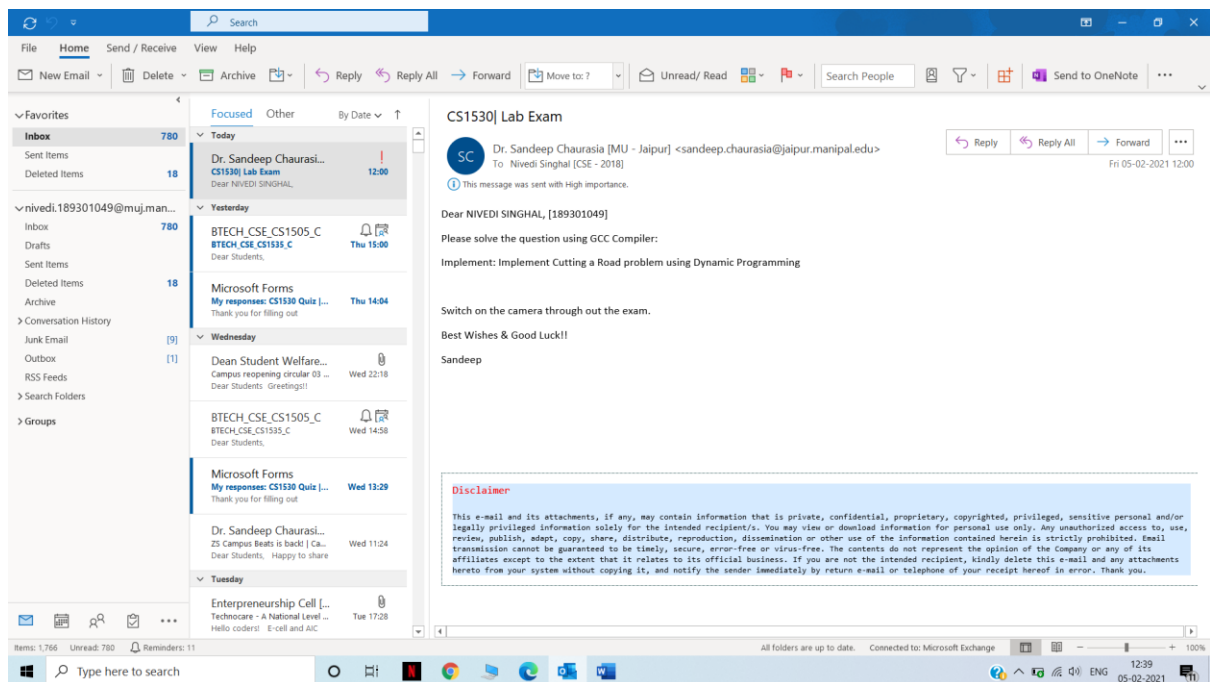DAA ETE LAB

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CSE C

Source Code

```c
#include <stdio.h>
#define MAX(x, y) (((x) > (y)) ? (x) : (y))


const int temp = 1000;

int arr[5+1];


void fill() {

  int i;

  arr[0] = 0;

  for(i=1; i<=5; i++) {
```

```c
    arr[i] = -1*temp;
  }
}


int road(int c[], int n) {
 if (arr[n] >= 0) {
   return arr[n];
 }


 int maximum_revenue = -1*temp;
 int i;


 for(i=1; i<=n; i++) {
   maximum_revenue = MAX(maximum_revenue, c[i] + road(c, n-i));
 }


 arr[n] = maximum_revenue;
 return arr[n];
}

int main() {
 fill();


 int price[] = {0, 10, 24, 30, 40, 45};
 printf("%d\n", road(price, 5));
 return 0;
}
```


OUTPUT:

```c
7  void fill() {
8      int i;
9      arr[0] = 0;
10     for(i=1; i<=5; i++) {
11         arr[i] = -1*temp;
12     }
13  }
14
15  int road(int c[], int n) {
16     if (arr[n] >= 0) {
17         return arr[n];
18     }
19
20     int maximum_revenue = -1*temp;
21     int i;
22
23     for(i=1; i<=n; i++) {
24         maximum_revenue = MAX(maximum_revenue, c[i] + road(c, n-i));
25     }
26
27     arr[n] = maximum_revenue;
28     return arr[n];
29  }
30
31  int main() {
32     fill();
33
34     int price[] = {0, 10, 24, 30, 40, 45};
35     printf("%d\n", road(price, 5));
36     return 0;
37  }
```

```
...Program finished with exit code 0
Press ENTER to exit console.
```

```c
34     int price[] = {0, -50, 24, 30, 40, 45};
```

```c
7 - void fill() {
8      int i;
9      arr[0] = 0;
10 -   for(i=1; i<=5; i++) {
11         arr[i] = -1*temp;
12     }
13 }
14
15 - int road(int c[], int n) {
16 -   if (arr[n] >= 0) {
17         return arr[n];
18     }
19
20     int maximum_revenue = -1*temp;
21     int i;
22
23 -   for(i=1; i<=n; i++) {
24         maximum_revenue = MAX(maximum_revenue, c[i] + road(c, n-i));
25     }
26
27     arr[n] = maximum_revenue;
28     return arr[n];
29 }
30
31 - int main() {
32     fill();
33
34     int price[] = {0, 10.5, 24, 30, 40, 45};
35     printf("%d\n", road(price, 5));
36     return 0;
37 }
```

```
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...Program finished with exit code 0
Press ENTER to exit console.
```