INT 105

Name: Rohan Kumar Saini
Roll No: RM2041A01
Reg No: 12011878

ODD Roll Numbers

Q1: You have to write a menu-driven programme to create a bill for the item(s) selected by the user. Keep asking the user for selecting available item with their price list until the user inputs 'N' for no. Do this with the help of while loop and switch statement. Finally, you have to display the bill amount of all those selected items.

Solⁿ =

```c
# include <stdio.h>

int main()
{
    int i,a,b,c,d,e,f,g,p=0,q=0,r=0,s=0,t=0,u=0,v=0,bill;
    char x,y;
    printf("1. Sugar = Rs 37 per kg");
    printf("\n 2. Rice = Rs 62 per kg");
    printf("\n 3. Chikpeas = Rs 82 per kg");
    printf("\n 4. Walnut = Rs 400 per pack of 500 gm");
    printf("\n 5. Almond = Rs 600 per pack of 250 gm");
    printf("\n 6. Mustard oil = Rs 115 per pack of 1 lt");
    printf("\n 7. Wheat flour = Rs 250 per pack of 10 kgs");
    printf("\n If you wish to buy press Y if not then press N: ");
    scanf("%c", &x);
    while(x == 'Y' or x == 'y')
    {
```

```c
printf ("\n Enter the product number: ");
scanf ("%d", &i);
switch (i)
{
case 1:
    printf ("\n Enter the quantity of Sugar in kgs: ");
    scanf ("%d", &a);
    p = a * 37;
    break;
case 2:
    printf ("\n Enter the quantity of Rice in kgs: ");
    scanf ("%d", &b);
    q = b * 62;
    break;
case 3:
    printf ("\n Enter the quantity of Chickpeas in kgs: ");
    scanf ("%d", &c);
    r = c * 82;
    break;
case 4:
    printf ("\n Enter the quantity of Walnut in packs: ");
    scanf ("%d", &d);
    s = d * 400;
    break;
case 5:
    printf ("\n Enter the quantity of Almond in packs: ");
    scanf ("%d", &e);
    t = e * 600;
    break;
case 6:
```

```c
    printf ("\n Enter the quantity of Mustard oil in packs : ");
    scanf ("%d", &f);
    u = f * 115;
    break;
case 7:
    printf ("\n Enter the quantity of Wheat flour in packs : ");
    scanf ("%d", &g);
    v = g * 250;
    break;
default:
    printf ("\n Invalid Input ");
}

printf ("\n If you wish to continue shopping press Y if not then press N: ");
scanf ("\n%c", &y);
if (y == 'Y' or y == 'y')
{
    x = 'y';
}
else
{
    x = 'N';
}
}

bill = p+q+r+s+t+u+v;
printf ("\n Total bill is Rs%d ", bill);
}
```

File Edit Search Project Execute Tools AStyle Window Help

(globals)

TDM-GCC 4.9.2 64-bit Release

CA1(a).cpp

```
1    #include<stdio.h
2    int main()
3    {
4        int i,a,b,c,
5        char x,y;
6        printf("1.Su
7        printf("\n2.
8        printf("\n3.
9        printf("\n4.
10       printf("\n5.
11       printf("\n6.
12       printf("\n7.
13       printf("\nIf
14       scanf("%c",&
15       while(x=='Y'
16       {
17           printf("
18           scanf("%
```

C:\Rohan\Coding\CA1(a).exe

```
1.Sugar = Rs37 per kg
2.Rice = Rs62 per kg
3.Chikpeas = Rs82 per kg
4.Walnut = Rs400 per pack of 500gm
5.Almond = Rs600 per pack of 250gm
6.Mustard oil = Rs115 per pack of 1lt
7.Wheat flour = Rs250 per pack of 10kgs
If you wish to buy press Y if not then press N: y

Enter the product number: 5

Enter the qunatity of Almond in packs: 2

If you wish to continue shopping press Y if not then press N: y

Enter the product number: 4

Enter the qunatity of Walnut in packs: 1

If you wish to continue shopping press Y if not then press N: n

Total bill is Rs1600
--------------------------------
Process exited after 49.35 seconds with return value 0
Press any key to continue . . .
```

Compiler   Resources

Abort Compilation

Comp:
- Err
- War
- Out
☐ Shorten compiler paths   - Out
- Con

Line: 8   Col: 42   Sel: 0   Lines: 72   Length: 1723   Insert   Done parsing in 0 seconds

ENG IN   19:00   14-02-2022

Q2: When will the 'while' loop be preferred over the for loop? Mention the scenario and write the programme to demonstrate this.

Sol^n = While loop is preferred over the for loop when we don't know the end condit number of times the loop may run. For example, program to calculate the sum of numbers, until user inputs a negative number

```c
#include <stdio.h>
int main()
{
    int sum = 0, num;
    printf("Enter a number: ");
    scanf("%d", &num);
    while (num >= 0)
    {
        sum = sum + num;
        printf("\n Enter a number: ");
        scanf("%d", &num);
    }
    printf("\n the sum is: %d", sum);
}
```

File   Edit   Search   Project   Execute   Tools   AStyle   Window   Help

(globals)

CA1(a).cpp   01-02-2022.cpp   02-02-2022.cpp   03-02-2022.cpp   08-02-2022.cpp   CA1(b).cpp

```c
#include<stdio.h>
int main()
{
    int sum=0,num;
    printf("Enter a 
    scanf("%d",&num)
    while(num>=0)
    {
        sum=sum+num;
        printf("\nEn
        scanf("%d",&
    }
    printf("\nThe su
}
```

C:\Rohan\Coding\CA1(b).exe

```
Enter a number: 2

Enter a number: 4

Enter a number: 7

Enter a number: -9

The sum is: 13
------------------------------------
Process exited after 28.17 seconds with return value 0
Press any key to continue . . .
```

Compiler   Resources   Compi

Abort Compilation

☐ Shorten compiler paths

Compilati

- Errors:
- Warning
- Output
- Output
- Compila

Line: 14   Col: 2   Sel: 0   Lines: 14   Length: 232   Insert   Done parsing in 0 seconds

TDM-GCC 4.9.2 64-bit Release

ENG
IN

19:13
14-02-2022

Q3: Pass your marks of CA-1, CA-2, and CA-3, of course, INTI02 to the function with header high (float, float, float). Write a function that should return the highest CA marks.

Sol^n =

```c
# include < stdio.h >
float max (float a, float b, float c);


float max (float a, float b, float c).
{
    float highest;
    if (a > b and a > c)
    highest = a;
    else if (b > c)
    highest = b;
    else
    highest = c;
    return highest;
}



int main ()
{
    float (x, y, z);
    printf (" \n Enter CA1 marks:  ");
    scanf (" %f ", &x);
    printf (" \n Enter CA 2 marks:  ");
    scanf (" %f ", &y);
    printf (" \n Enter CA 3 marks:  ");
    scanf (" %f ", &z);
    printf (" \n Highest marks in CA are: %0.2f ", max (x, y, z));
}
```
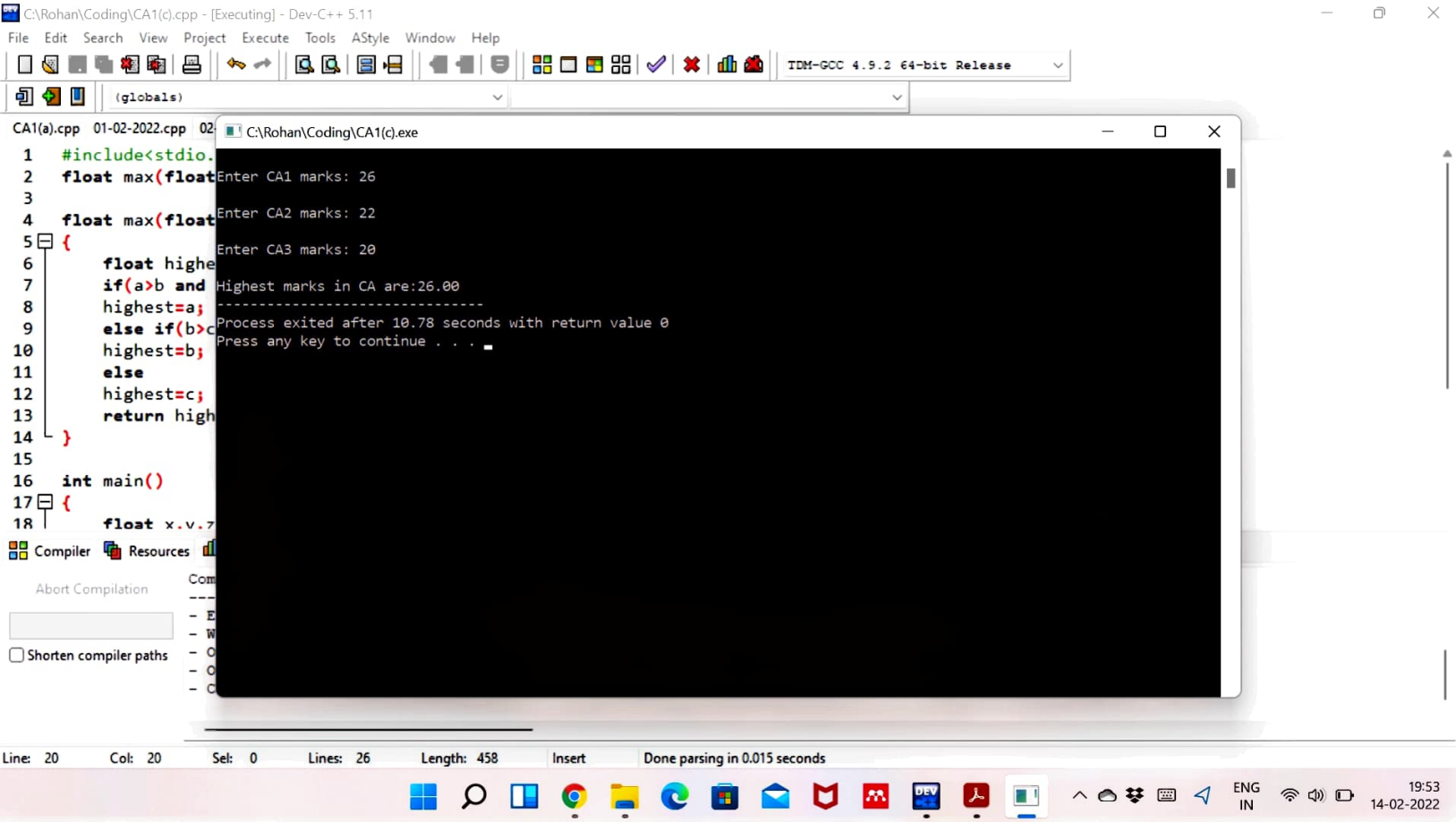
C:\Rohan\Coding\CA1(c).cpp - [Executing] - Dev-C++ 5.11

File Edit Search Project Execute Tools AStyle Window Help

(globals)

TDM-GCC 4.9.2 64-bit Release

CA1(a).cpp 01-02-2022.cpp

```
1    #include<stdio.
2    float max(float
3
4    float max(float
5    {
6        float highe
7        if(a>b and
8        highest=a;
9        else if(b>c
10       highest=b;
11       else
12       highest=c;
13       return high
14   }
15
16   int main()
17   {
18       float x,y,7
```

C:\Rohan\Coding\CA1(c).exe

```
Enter CA1 marks: 26

Enter CA2 marks: 22

Enter CA3 marks: 20

Highest marks in CA are:26.00
--------------------------------
Process exited after 10.78 seconds with return value 0
Press any key to continue . . .
```

Compiler   Resources

Abort Compilation

☐ Shorten compiler paths

Line: 20   Col: 20   Sel: 0   Lines: 26   Length: 458   Insert   Done parsing in 0.015 seconds

6

Page No.

Q4.

a) Take input of your registration number in the University using appropriate data type. Write a programme to print all the prime number digits, each in a new line, in your registration number.

Solⁿ =

```c
#include <stdio.h>
int main ()
{
    int num, x, i;
    printf ("Enter registration number: ");
    scanf ("%d", &num);
    printf ("Prime digits in your registration number %d are :\n", num);
    for (i=0; i<8; i++)
    {

    x = num %10;
    num = num /10;
    if (x==2 or x==3 or x==5 or x==7)
    {
        printf ("%d\n", x);
    }
    }
}
```

```
Enter registration number: 12011878
Prime digits in your registration number 12011878 are:
7
2

--------------------------------
Process exited after 17.02 seconds with return value 0
Press any key to continue . . .
```
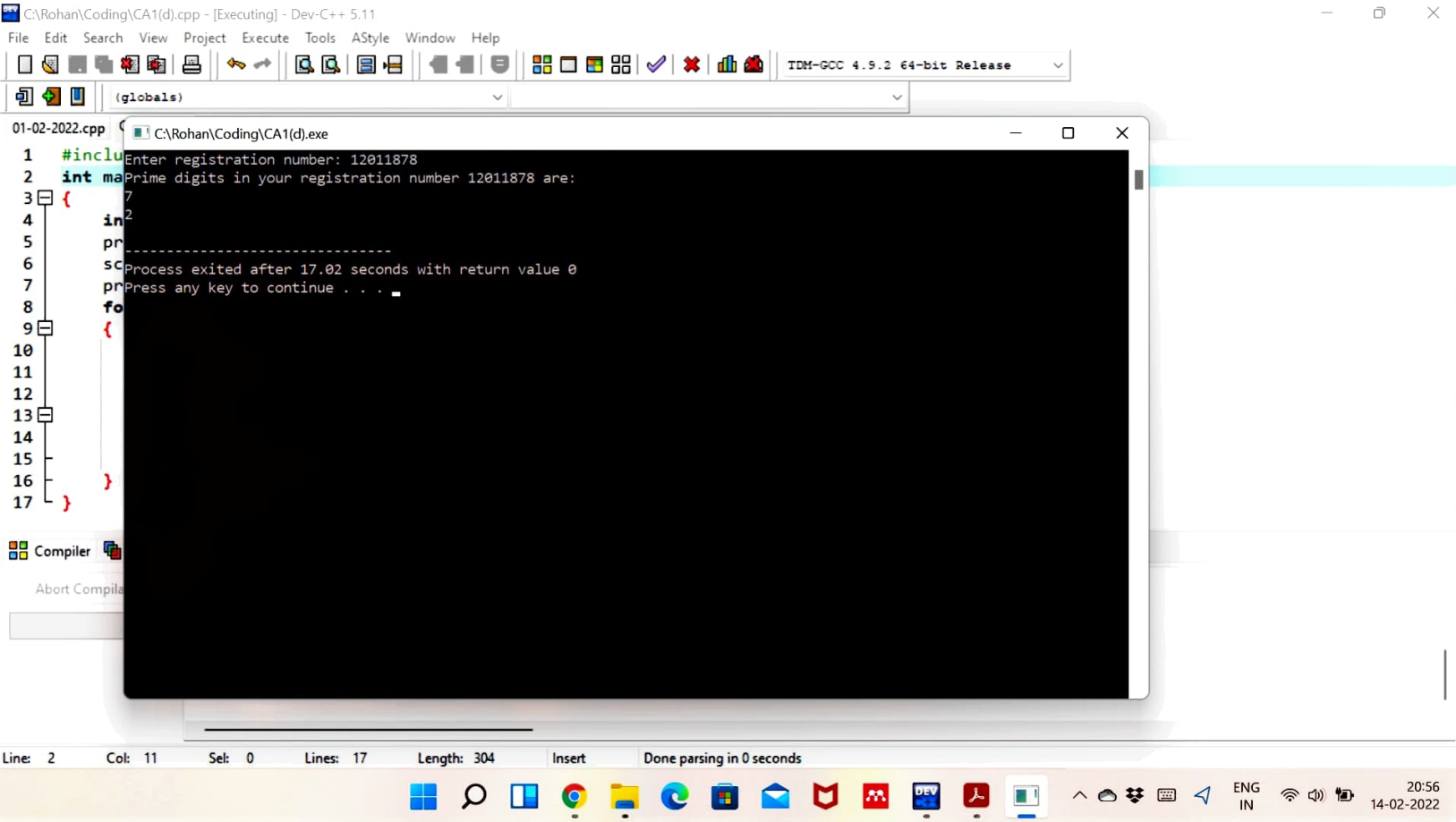
b) Input numbers from the user and find the product of all those input numbers until the user inputs a negative number. In other means, the loop should end when the user enters a negative number. Finally, display the product of all those positive numbers entered by the user.

Sobⁿ =

```c
# include <stdio.h>
int main()
{
    int product = 1, num;
    printf(" Enter a number: ");
    scanf(" %d", & num);
    while (num >= 0)
    {
        product = product * num;
        printf("\n Enter a number: ");
        scanf("%d", & num);
    }
    printf("\n The product is: %d", product);
}
```

```
#include<stdio
int main()
{
    int produc
    printf("En
    scanf("%d"
    while(num>
    {
        produc
        printf
        scanf(
    }
    printf("\n
}
```

Enter a number: 5

Enter a number: 6

Enter a number: 10

Enter a number: 11

Enter a number: -2

The product is: 3300

Process exited after 10.08 seconds with return value 0
Press any key to continue . . .