ASSIGNMENT CT-4

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BTECH CSE -D2

Program:

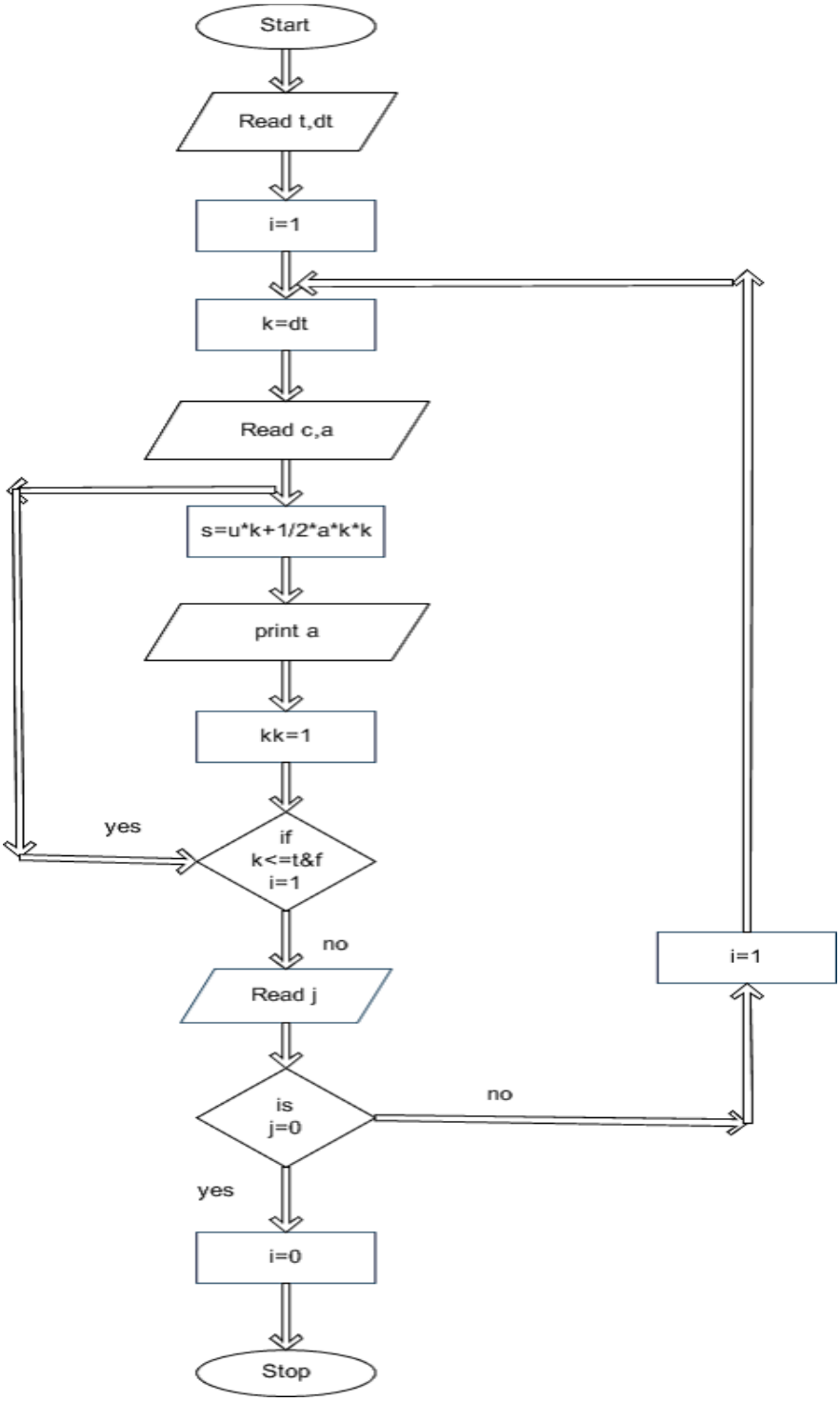
```
#include<stdio.h>
#include<conio.h>
#include<math.h>
void main()
{
   int i, n, sec;
   float d, u, a;
   clrscr();
   printf("Enter the no. of intervals\n");
   scanf("%d", &n);
   for(i = 1; i <= n; i++)
   {
      printf("interval: %d \n", i);
      printf("Enter the time in seconds \n");
      scanf("%d",&sec);
      printf("Enter the velocity \n");
      scanf("%f", &u);
      printf("Enter the acceleration \n");
      scanf("%f", &a);
      d= d + (u * sec + (a * (pow(sec, 2))) / 2);
   }
   printf("Total distance travelled is  %.2f", d);
   getch(); }
```

LOGIC:

Algorithm:

```
Step 1: Start
Step 2: Read interval as integer
Step 3: for counter: 1 to interval increment counter by 1
          begin
          Read time, velocity, acceleration
          Distance += (velocity * time + (accelerations * pow(time, 2)) / 2);
          end
Step 4: Print Distance
Step 5: Stop
```

Flowchart:


Start
Read t,dt
i=1
k=dt
Read c,a
s=u*k+1/2*a*k*k
print a
kk=1
yes
if
k<=t&f
i=1
no
Read j
is
j=0
no
yes
i=0
Stop
i=1

Run | Debug | Stop | Share | Save | {} Beautify

main.c

```c
#include <stdio.h>
#include <math.h>
#include <stdlib.h>
#include <ctype.h>
int main()
{
    int n,t1,t2;
    float s1,s2,s,u,a;
    printf("number of times you want to perform  ");
    scanf("%d",&n);
    while(n>0)
    {
        printf("\n enter the inital velocity in meters per second:");
        scanf("%f",&u);
        printf("\n enter the acceleration in meter per second square:");
        scanf("%f",&a);
        printf("\n enter the  lower time interval in seconds:");
        scanf("%d",&t1);
        printf("\n enter the upper time interval in seconds:");
        scanf("%d",&t2);
        s1=(u+t1)+((a*t1*t1)/2);
        s2=(u*t2)+((a*t2*t2)/2);
        s=s2-s1;
        printf("\n the distance travelled for the given time interval is %.2f meter\n",s);
        n--;

    }
    return 0;
}
```

input

```
number of times you want to perform  1

 enter the inital velocity in meters per second:12

 enter the acceleration in meter per second square:30

 enter the  lower time interval in seconds:40

 enter the upper time interval in seconds:50

 the distance travelled for the given time interval is 14048.00 meter


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