PROGRAM 34 : DATE : 16/04/2024

10 Rem " TO FIND THE ROOTS OF QUADRATIC EQUATION USING NEWTON RATHSON METHOD "

20 Cls

30 Input " ENTER THE COFFICIENT OF X^2"; A

40 Input " ENTER THE COFFICIENT OF X"; B

50 Input " ENTER THE VALUE OF CONSTANT "; C

60 DEF FNA(X)=A\*(X^2)+B\*X+C

70 DEF FNB(X)=2\*A\*X+B

80 INPUT " ENTER THE GUESS VALUE ";X0

90 INPUT " ENTER THE VALUE OF N "; N

100 FOR I = 1 TO N STEP 1

110 X=X0-(FNA(X0)/FNB(X0))

120 IF ABS(X-X0) < 0.0001 THEN 150 ELSE 130

130 LET X0=X

140 NEXT I

150 PRINT "THE VALUE OF GUESS VALUE ";X0

160 PRINT " THE VALUE OF I IS ";I

170 END

PROGRAM 35 : DATE : 16/04/2024

10 Rem " TO FIND THE LINE OF BEST FIT "

20 Cls

30 Print " THE LINE OF BEST FIT "

40 Dim X(12), Y(12)

50 Let N = 5

60 For I = 1 To N

70 Read X(1), Y(1)

80 Let SX = SX + X(1)

90 Let SY = SY + Y(1)

100 Let SXX = SXX + (X(1)) ^ 2

110 Let SYY = SYY + (Y(1)) ^ 2

120 Let SXY = SXY + X(1) \* Y(1)

130 Next I

140 Let D = N \* SXX - (SX) ^ 2

150 Let M = (N \* SXY - SX \* SY) / D

160 Let C = (SXX \* SY - SX \* SXY) / D

170 Print " SLOPE OF LINE (M)"; M

180 Print " INTERCEPT (C)"; C

190 Let VX = (SXX / N) - (SX / N) ^ 2

200 Let VY = (SYY / N) - (SY / N) ^ 2

210 Print "VARIANCE OF X,VX"; VX

220 Print " VARIANCE OF Y ,VY"; VY

230 Let SDX = Sqr(VX)

240 Let SDY = Sqr(VY)

250 Let R = M \* (SDX / SDY)

260 Print " STANDARD DEVIATION OF X , SDX"; SDX

270 Print " STANDARD DEVIATION OF X , SDY"; SDY

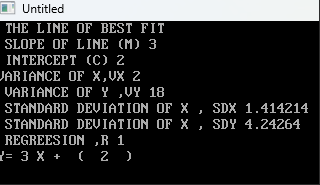
280 Print " REGREESION ,R"; R

290 Print "Y="; M; "X + "; " ( "; C; " ) "

300 Data 1,5,2,8,3,11,4,14,5,17

310 End

OUTPUT :



PROGRAM 36 : 23-04-2024

10 Rem "WAP TO FIND OUT THE AREA UNDER THE CURVE FOR A POLYNOMIAL USING TRAPEZODAL RULE"

20 Cls

30 Input " ENTER THE NUMBER OF DIVISION N = "; N

40 Input " ENTER THE LOWER LIMIT A= "; A

50 Input " ENTER THE UPPER LIMIT B="; B

60 FNY(X) = X ^ 2 + 6 \* X + 9

70 H = (B - A) / N

80 S = 0

90 For I = 1 To N - 1

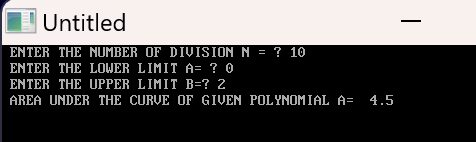
100 S = S + FNY(A + I \* H)

110 Next I

120 A = Abs(H \* 0.5 \* (FNY(A) + FNY(B) + 2 \* (S)))

130 Print " AREA UNDER THE CURVE OF GIVEN POLYNOMIAL A= "; A

140 End

OUTPUT :  


PROGRAM 37 : 23-04-2024

10 Rem " WAP TO FIND OUT THE ENTHALPY OF NITROGEN GAS USING TRAPEZODAL RULE "

20 Cls

30 Input " ENTER THE NUMBER OF DIVISION N= "; N

40 T1 = 298

50 T2 = 373

60 DEF FNY(T) = 31.44 - 0.01 \* T + (0.000036) / (T ^ 2)

70 H = (T2 - T1) / N

80 S = 0

90 For I = 1 To N - 1

100 S = S + FNY(T1 + I \* H)

110 Next I

120 E = Abs(0.5 \* H \* (FNY(T1) + FNY(T2) + H \* S))

130 Print " ENTHALPY OF NITROGEN GAS E= "; E; " JMOL^-1"

140 End

PROGRAM 38 : DATE : 23-04-2024  
10 Rem " WAP TO FIND OUT THE ENTHALPY OF NITROGEN GAS USING TRAPEZODAL RULE "

20 Cls

30 Input A, B, N

40 X = 3.381

50 Y = 1.804 \* (10) ^ (-2)

55 Z = (-4.3) \* (10) ^ -6

60 H = (B - A) / N

70 FNY(T) = (X / T) + Y + (Z \* T)

80 S2 = 0: S4 = 0

85 S1 = FNY(A) + FNY(B)

90 For I = 1 To N - 2 Step 2

100 S4 = S4 + FNY(A + I \* H)

105 S2 = S2 + FNY(A + (I + 1) \* H)

110 Next I

115 Print I

120 AREA = (H / 3) \* (S1 + 4 \* S4 + 2 \* S2)

130 Print AREA

140 End

PROGRAM 39 : DATE : 23-04-2024

10 Rem " TO FIND THE AREA UNDER THE CURVE USING SIMPSON'S ONE THIRD RULE "

20 Cls

30 Input " LOWER LIMIT"; A

40 Input " UPPER LIMIT "; B

50 Input " NUMBER OF INTERVALS "; N

60 FNY(X) = X ^ 2 + 6 \* X + 9

70 H = (B - A) / N

80 SUM = FNY(A) + FNY(B)

90 S = 0

100 M = 4

110 For I = 1 To N - 1

120 S = S + FNY(A + I \* H) \* M

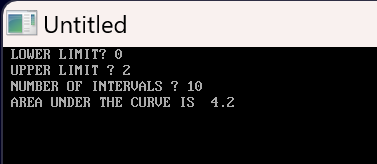
130 If M = 4 Then M = 2 Else M = 4

140 Next I

150 AREA = Abs((H / 3) \* (SUM + S))

160 Print " AREA UNDER THE CURVE IS "; AREA

170 End

OUTPUT :  


PROGRAM 40 : DATE : 23-04-2024

10 Rem " SUBROUTINE PROGRAM "

20 Input " THW VALUES OF N AND R IS : "; N, R

30 A = N

40 GoSub 500

50 NFAC = P

60 A = R

70 GoSub 500

80 RFAC = P

90 A = (N - R)

100 GoSub 500

110 NRFAC = P

120 NCR = (NFAC) / ((RFAC \* NRFAC))

130 Print "THE NCR OF "; N; "AND"; R; "IS :"; NCR

140 End

500 Rem SUBROUTINE

510 P = 1

520 For I = 1 To A

530 P = P \* I

540 Next I

560 Return

OUTPUT :

