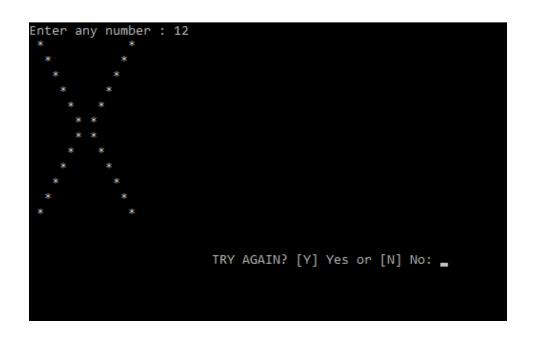
```
Program #1:
                                                      go {
Source Code:
                                                     company ch;
PrimaryMission() {
                                                     post("\n\t\t\t\t\t\t\t\t) AGAIN? [Y] Yes or [N]
                                                     No: ");
unit i, j, n;
unit temp;
                                                     capture (#ch);
unit choice=0;
                                                      inorder((ch = = "Y") || (ch = = "y")) {
go {
                                                      i=0:
commence;
                                                      j=0;
post("Enter any number : ");
                                                     n=0;
capture (#n);
                                                      temp=0;
phase (n \le 0)
                                                     choice = 1;
post("Enter POSITIVE number : ");
                                                     otherorder((ch = = "N") | (ch = = "n")) {
capture (#n);
                                                      choice = 0;
inquire(i=0; i \le n; i++) {
inquire(j=0; j \le n; j++) {
                                                     order {
temp = n - i - 1;
                                                      post("\n\t\t\tError Input!");
inorder((i==j) \mid | (j==temp))  {
                                                     choice = 3;
post(" *");
                                                     } phase(choice = = 3);
order {
                                                     } phase(choice != 0);
post(" ");
                                                     post("\n\t\t\tGOODBYE!!");
                                                     } deploy();
post("\n");
                                                     Print Screen:
```



```
Program # 2:
                                                    post("\n");
Source Code:
                                                    go {
PrimaryMission() {
                                                    company ch;
unit i, j, n, k, temp, temp2, temp3, temp4;
unit choice=0;
                                                    go {
                                                    No: ");
                                                    capture (#ch);
commence;
                                                    inorder((ch = = "Y") | | (ch = = "y")) {
post("Enter value of n : ");
capture (#n);
phase (n > 50)
                                                    j=0;
post("Must not Exceeded to 50!\n");
                                                    n=0;
post("Enter value of n : ");
                                                    k=0;
capture (#n);
                                                    temp=0;
                                                    temp2=0;
temp=n/2;
                                                    temp3=0;
post(" ");
                                                    temp4=0;
inquire(k=temp; k \le n; k++) {
                                                    choice = 1;
k=k+2:
                                                    otherorder((ch = = "N") || (ch = = "n")) {
temp2=n-k;
inquire(j=1; j < temp2; j++) {
                                                    choice = 0;
j = j + 2;
post(" ");
                                                    order {
                                                    post("\n\t\t\tError Input!");
inquire(j=1;
                                                                                 choice = 3;
j \le k; j++) {
post("*");
                                                                                 } phase(choice
                                                                                 = = 3):
inquire(j=1;
                                                                                 } phase(choice
                                                                                 ! = 0);
j \le temp2; j++)
post(" ");
inquire(j=1;
j \le k; j++) {
post("*");
post("\n");
inquire(i=n;
i > = 1; i -- ) {
inquire(j=i;
j < n; j++)  {
                                      TRY AGAIN? [Y] Yes or [N] No: _
post(" ");
                                                    post("\n\t\t\t\000DBYE!!");
temp3=(i*2);
                                                    } deploy();
post(" ");
                                                    Print screen:
inquire(j=1; j \le temp3; j++) {
post("*");
```

order { post(" "); $post("\n");$ Program # 3: Source Code: PrimaryMission() { go { unit i, j, k, n, temp=0; company ch; unit choice=0; $post("\n\t\t\t\t\t\t\t\t)$ AGAIN? [Y] Yes or [N] No: "); go { commence; capture (#ch); inorder((ch = = "Y") || (ch = = "y")) { post("Enter the Value for n : "); capture (#n); i=0;temp=temp-n; j=0; inquire($i=temp; i \le n; i++$) { k=0; n=0; k=i; inorder (k<0) { temp=0; $k = k * ^{\sim}1;$ choice = 1; otherorder((ch = = "N") || (ch = = "n")) { inquire(j=0; j<=n; j++) { inorder (k)=j { choice = 0; post("* "); order { post("\n\t\t\tError Input!"); choice = 3; $}$ phase (choice = = 3); } phase(choice != 0); post("\n\t\t\tGOODBYE!!"); } deploy();

Program # 4:

Source Code:

```
PrimaryMission() {
unit i, j, k, n, temp;
unit choice=0;
go {
commence;
post("Enter Number : ");
capture(#n);
inquire (i=1; i \le n; i++) {
inquire(j=1; j \le n; j++) {
temp = n + 1-i;
inorder(j <= temp) {</pre>
inorder ((i = =1) | | (j = = 1) | | (j = =
temp)) {
post("* ");
order {
post(" ");
post("\n");
go {
company ch;
```

```
post("\n\t\t\t\t\t\t\t) AGAIN? [Y] Yes or [N]
No: ");
capture(#ch);
inorder((ch = = "Y") | (ch = = "y")) {
i=0;
j=0;
k=0;
n=0;
temp=0;
choice = 1;
otherorder((ch = = "N") | (ch = = "n")) {
choice = 0;
order {
post("\n\t\tError Input!");
choice = 3;
} phase (choice = = 3);
} phase(choice != 0);
post("\n\t\t\tGOODBYE!!");
} deploy();
```

Print Screen:

Program # 5:

Source Code:

```
PrimaryMission() {
unit i, j, k, num, temp=0;
unit choice=0;
go {
commence;
```

```
post("Enter any value : ");
capture (#num);
temp=temp-num;
inquire(i=temp;i<=num;i++) {</pre>
k=i;
inorder(k<0) {
k = k * ^{\sim}1;
inquire(j = 0; j \le num; ++j) {
inorder(j<k) {
post(" ");
order {
post("*");
post("\n");
go {
company ch;
No: ");
capture (#ch);
inorder((ch = = "Y") | | (ch = = "y")) {
i=0;
j=0;
k=0;
num=0;
temp=0;
choice = 1;
otherorder((ch = = "N") || (ch = = "n")) {
choice = 0;
order {
post("\n\t\t\tError Input!");
choice = 3;
} phase(choice = = 3);
} phase(choice != 0);
post("\n\t\t\tGOODBYE!!");
} deploy();
```

```
Program # 6:
Source Code:
PrimaryMission() {
```

```
unit i, j, k, num;
                                Enter the Number : 5
unit choice=0;
go {
commence;
post("Enter the Number : ");
capture(#num);
inquire(i=1;i \le num;i++) {
inquire(j=1; j \le num; j++) {
                                                              TRY AGAIN? [Y] Yes or [N] No:
inorder(i==j) {
post("* ");
order {
post(" ");
post("\n");
go {
company ch;
post("\n\t\t\t\t\t\t\t) AGAIN? [Y] Yes or [N]
No: ");
capture (#ch);
inorder((ch = = "Y") | | (ch = = "y")) {
j=0;
k=0;
num=0;
choice = 1;
otherorder((ch = = "N") | | (ch = = "n")) {
choice = 0;
order {
post("\n\t\t\tError Input!");
choice = 3;
} phase(choice = = 3);
} phase(choice != 0);
                                                   Program # 7:
post("\n\t\t\tGOODBYE!!");
                                                   Source Code:
} deploy();
                                                   unit arr1[100];
Print Screen:
                                                   PrimaryMission() {
                                                   unit i, mx, mn, n;
                                                   unit choice=0;
                                                   go {
                                                   commence;
```

```
post("\n\nFind maximum and minimum
element in an array :\n");
post ("-----
  ----\n");
post ("Input the number of elements to
be stored in the array:");
capture (#n);
post("Input" + n + "elements in the
array : \n'');
inquire (i=0; i < n; i++) {
post("element - " + i + ": ");
capture(#arr1[i]);
mx = arr1[0];
mn = arr1[0];
inquire (i=1; i < n; i++) {
inorder(arr1[i] > mx) {
mx = arr1[i];
inorder(arr1[i] < mn) {</pre>
mn = arr1[i];
post("Maximum element is : " + mx +
post("Minimum element is : " + mn +
"\langle n \rangle ";
go {
company ch;
[N] No: ");
capture (#ch);
inorder((ch = = "Y") | | (ch = = "y")) {
i=0;
mx=0;
mn=0:
n=0;
choice = 1:
otherorder ((ch = = "N") || (ch = =
"n")) {
choice = 0;
```

```
order {
post("\n\t\t\tError Input!");
choice = 3;
}

phase(choice = = 3);

phase(choice != 0);
post("\n\t\t\tGOODBYE!!");
deploy();
```

```
Find maximum and minimum element in an array:

Input the number of elements to be stored in the array:

InputSelements in the array:

element - 0: 2

element - 1: 3

element - 2: 4

element - 3: 5

element - 4: 6

Maximum element is: 6

Minimum element is: 2

TRY AGAIN? [Y] Yes or [N] No:
```

```
Program # 8:
```

```
Source Code:
unit getNextValue(unit aNum) {
unit i;
i = aNum;
unit temp;
temp = i%2;
inorder(temp = = 0) {
i = i/2;
}
order {
i = 3 * i + 1;
}
backup(i);
}
```

```
post (" Input any number (*positive) to
miss getHailstone (unit aNum) {
                                              start for Hailstone Sequence: ");
unit hlSe;
h1Se = aNum;
                                              capture (#aNum);
unit temp;
inorder (h1Se = = 1) {
post(h1Se + " ");
                                              post ("\n The hailstone sequence
                                              starting at " + aNum + " is : \n");
                                              getHailstone(aNum);
order {
post(" " + h1Se + " ");
                                              post("\n\n");
temp = getNextValue(h1Se);
                                              temp = countLength(aNum);
                                              post(" The length of the sequence is "
getHailstone(temp);
                                              + temp + " \n'");
                                              go {
unit countLength(unit aNum) {
                                              company ch;
                                              unit hlSe;
h1Se = aNum;
                                              [N] No: ");
unit cnt = 0;
                                              capture (#ch);
                                              inorder ((ch = = "Y") | (ch = = "y")) {
unit temp;
inorder (h1Se = = 1) {
                                              aNum=0:
cnt = 1;
                                              temp=0;
                                              choice = 1;
order {
                                              otherorder((ch = = "N") || (ch = =
temp = getNextValue(h1Se);
                                              "n")) {
cnt = cnt + countLength(temp);
                                              choice = 0:
backup(cnt);
                                              order {
                                              post("\n\t\t\tError Input!");
PrimaryMission() {
                                              choice = 3:
unit aNum;
unit temp;
unit choice=0;
                                              } phase (choice = = 3);
go {
                                              } phase(choice != 0);
commence;
                                              post("\n\t\t\tGOODBYE!!");
post("\n\n Recursion : Hailstone
Sequence of a given number upto 1:
                                              } deploy();
n'');
post ("----
post(" Input any number (positive) to
start for Hailstone Sequence: ");
capture (#aNum);
phase (aNum \leq 0) {
```

Print Screen: cp=0;

```
Recursion: Hailstone Sequence of a given number upto 1:

Input any number (positive) to start for Hailstone Sequence: 15

The hailstone sequence starting at 15 is:
15 46 23 70 35 106 53 160 80 40 20 10 5 16 8 4 2 1

The length of the sequence is 1

TRY AGAIN? [Y] Yes or [N] No:
```

```
Program # 9:
Source Code:
PrimaryMission() {
unit cp, sp, amt;
unit choice=0;
go {
commence;
post("Enter cost price: ");
capture (#cp);
post("Enter selling price: ");
capture (#sp);
inorder(sp > cp) {
amt = sp - cp;
post("Profit = " + amt);
otherorder(cp > sp) {
amt = cp - sp;
post("Loss = " + amt);
order {
post("\nNo Profit No Loss.");
go {
company ch;
[N] No: ");
capture (#ch);
inorder((ch = = "Y") | | (ch = = "y")) {
```

```
sp=0;
amt=0;
choice = 1;
otherorder((ch = = "N") || (ch = =
"n")) {
choice = 0;
order {
post("\n\t\tError Input!");
choice = 3;
} phase (choice = = 3);
} phase(choice != 0);
post("\n\t\t\tGOODBYE!!");
} deploy();
```

post("\n\n\t\t\tTRY AGAIN? [Y] Yes or
[N] No: ");

```
Enter cost price: 1000
Enter selling price: 1500
Profit = 500

TRY AGAIN? [Y] Yes or [N] No: _
```

```
Program #10:
Source Code:
PrimaryMission() {
unit a, b, c;
unit choice=0;
go {
commence;
post ("Enter three sides of triangle:
");
capture(#a);
capture (#b);
capture (#c);
inorder ((a==b) & (b==c)) {
post("Equilateral triangle.");
otherorder((a==b) | | (a==c) | | (b==c))
post("Isosceles triangle.");
order {
post("Scalene triangle.");
}
go {
company ch;
```

```
capture (#ch);
inorder ((ch = = "Y") | (ch = = "y")) {
a=0;
b=0;
c=0;
choice = 1;
otherorder ((ch = = "N") | | (ch = =
"n")) {
choice = 0;
order {
post("\n\t\tError Input!");
choice = 3;
} phase (choice = = 3);
} phase(choice != 0);
post("\n\t\t\tGOODBYE!!");
} deploy();
```

```
nter three sides of triangle: 30
Isosceles triangle.
                       TRY AGAIN? [Y] Yes or [N] No: _
```

Program # 11:

Source Code:

```
PrimaryMission() {
unit amount;
unit note500=0, note100=0, note50=0,
note20=0, note10=0, note5=0, note2=0,
note1=0;
unit choice=0;
go {
commence;
post("Enter amount: ");
capture (#amount);
inorder (amount \geq 500) {
note500 = amount/500;
amount = amount - note500 * 500;
inorder (amount >= 100) {
note100 = amount/100;
amount = amount - note100 * 100;
inorder (amount \geq 50) {
note50 = amount/50;
amount = amount - note50 * 50;
inorder(amount >= 20) {
note20 = amount/20;
amount = amount - note20 * 20;
inorder (amount >= 10) {
note10 = amount/10;
amount = amount - note10 * 10;
inorder (amount \geq 5) {
note5 = amount/5;
amount = amount - note5 * 5;
```

```
inorder (amount >= 2) {
note2 = amount /2;
amount = amount - note2 * 2;
inorder (amount \geq 1) {
note1 = amount;
post ("Total number of notes = \n");
post("500 = " + note500 + " \n");
post("100 = " + note100 + " \n");
post("50 = " + note50 + " \n");
post("20 = " + note20 + " \n");
post("10 = " + note10 + " \n");
post("5 = " + note5 + "\n");
post("2 = " + note2 + "\n");
post("1 = " + note1 + "\n");
go {
company ch;
[N] No: ");
capture (#ch):
inorder((ch = = "Y") | (ch = = "y")) {
note500=0;
note100=0:
note50=0;
note20=0;
note10=0;
note5=0;
note2=0;
note1=0;
choice = 1;
otherorder ((ch = = "N") | (ch = =
"n")) {
choice = 0;
order {
post("\n\t\t\tError Input!");
choice = 3;
\} phase (choice = = 3);
} phase(choice != 0);
post("\n\t\t\tGOODBYE!!");
```

```
post("Tower of Hanoi!\n");
                                               post("Enter number of disk: ");
Print Screen:
           Enter amount: 150
           otal number of notes =
           500 = 0
             = 0
           10 = 0
            = 0
                                    TRY AGAIN? [Y] Yes or [N] No:
                                               capture(#ndisk);
                                               hanoi(ndisk, '1', '2', '3');
Program # 12:
Source Code:
                                               go {
miss hanoi (unit ndisk, joe source, joe
                                               company ch;
target, joe other) {
                                               post("\n\t\t\t\tTRY\ AGAIN?\ [Y]\ Yes\ or
inorder (ndisk > 0) {
                                               [N] No: ");
ndisk=ndisk-1;
hanoi (ndisk, source, other, target);
                                               capture (#ch);
                                               inorder((ch = = "Y") || (ch = = "y")) {
post("Move disk from" + source + " to "
+target+ "n");
                                               ndisk=0;
                                               choice = 1;
hanoi (ndisk, other, target, source);
                                               otherorder ((ch = = "N") || (ch = =
                                               "n")) {
                                               choice = 0;
PrimaryMission() {
unit ndisk;
                                               order {
unit choice=0;
                                               post("\n\t\tError Input!");
go {
                                               choice = 3:
commence;
                                               } phase (choice = = 3);
                                               } phase(choice != 0);
                                               post("\n\t\t\tGOODBYE!!");
                                               } deploy();
```

} deploy();

```
Tower of Hanoi!
Enter number of disk: 3
Move disk from1 to 2
Move disk from1 to 3
Move disk from2 to 3
Move disk from1 to 2
Move disk from3 to 1
Move disk from3 to 2
Move disk from1 to 2

TRY AGAIN? [Y] Yes or [N] No: _
```

Program # 13:

Source Code:

```
unit who_wins(company a, company b) {
unit num=0;
inorder((a = = "P") & (b = = "R")) {
num = 1;
}
inorder((a = = "P") & (b = = "S")) {
num = 2;
}
inorder((a = = "R") & (b = = "P")) {
num = 2;
}
inorder((a = = "R") & (b = = "S")) {
num = 1;
}
inorder((a = = "S") & (b = = "R")) {
num = 1;
}
inorder((a = = "S") & (b = = "R")) {
num = 2;
```

```
inorder ((a = = "S") & (b = = "P")) {
num = 1;
backup(num);
PrimaryMission() {
unit temp=0;
unit count A = 0;
unit count B = 0;
company pl1;
company p12;
unit choice=0;
go {
commence;
post("ROCK [R], PAPER [P] and SCISSOR's
[S] TOURNAMENT!!!\n");
post("Player A: ");
capture (#pl1);
commence;
post("Player B: ");
capture (#p12);
temp = who wins (p11, p12);
inorder(temp = = 1) {
post("A WINS\n");
count A++;
otherorder (temp = = 2) {
```

```
post("B WINS\n");
count_B++;
order {
post("DRAW\n");
inorder(count_A > count_B) {
post("A WINS TOURNAMENT\n");
order {
post("B WINS TOURNAMENT\n");
go {
company ch;
[N] No: ");
capture (#ch);
inorder ((ch = = "Y") | (ch = = "y")) {
temp=0;
count A = 0;
count_B = 0;
p11 = "";
p12 = "";
choice = 1;
otherorder ((ch = = "N") | | (ch = =
"n")) {
choice = 0;
order {
post("\n\t\t\tError Input!");
choice = 3:
} phase (choice = = 3);
} phase(choice != 0);
post("\n\t\t\tGOODBYE!!");
} deploy();
Print Screen:
```

```
Player B: P
B WINS
B WINS TOURNAMENT
TRY AGAIN? [Y] Yes or [N] No:
```

```
Program # 14:
Source Code:
unit arr1[10];
unit arr2[10];
unit arr3[10];

PrimaryMission() {
  unit i, j=0, k=0, n, temp;
  unit choice=0;
  go {
  commence;
```

```
integers in separate arrays:\n");
                                                      go {
    post ("-----
                                                      company ch;
                      ----\n");
                                                      post ("Input the number of elements to
                                                      [N] No: ");
    be stored in the array:");
                                                      capture (#ch);
                                                      inorder((ch = = "Y") | (ch = = "y")) {
    capture (#n);
    post("Input" + n + "elements in the
                                                      i = 0:
    array : \n'');
                                                      j=0;
    inquire (i=0; i < n; i++) {
                                                      k=0;
    post("element - " + i + ": ");
                                                      n=0:
    capture(#arr1[i]);
                                                      temp=0;
                                                      choice = 1;
    inquire (i=0; i \le n; i++) {
                                                      otherorder((ch = = "N") || (ch = =
    temp = arr1[i] \% 2;
    inorder(temp = = 0) {
                                                      "n")) {
    arr2[j] = arr1[i];
                                                      choice = 0;
    j++;
                                                      order {
                                                      post("\n\t\t\tError Input!");
    order {
    arr3[k] = arr1[i];
                                                      choice = 3:
    k++;
                                                      } phase (choice = = 3);
    post("\nThe Even elements are : \n");
    inquire (i=0; i < j; i++) {
                                                      } phase (choice != 0):
                                                      post("\n\t\t\tGOODBYE!!");
    post("[" + arr2[i] + "]");
                                                      } deploy();
eparate odd and even integers in separate arrays:
nput the number of elements to be stored in the array :5
input5elements in the array :
element - 0: 2
element - 1: 3
ne Even elements are :
2][10][-2]
he Odd elements are :
3][3]
                   TRY AGAIN? [Y] Yes or [N] No: _
                                                      Print Screen:
    post("\nThe Odd elements are :\n");
    inquire (i=0; i < k; i++) {
                                                      Program # 15:
    post("[" + arr3[i] + "]");
                                                      Source Code:
                                                      unit arr[50];
    post("\n\n");
                                                      PrimaryMission() {
```

post ("\n\nSeparate odd and even

```
unit n, i, sum=0;
unit choice;
go {
commence;
post("How many number you want to enter
?\n");
capture (#n);
post("Enter " + n + " Numbers :\n");
inquire(i=0; i < n; i++) {
capture(#arr[i]);
sum=sum+arr[i];
unit armean:
armean = sum/n;
post("Arithmetic Mean = " + armean);
go {
company ch;
[N] No: ");
capture (#ch);
inorder ((ch = = "Y") | (ch = = "y")) {
i=0;
sum=0;
choice = 1:
otherorder ((ch = = "N") || (ch = =
"n")) {
choice = 0:
order {
post("\n\t\t\tError Input!");
choice = 3;
} phase (choice = = 3);
} phase(choice != 0);
post("\n\t\t\tGOODBYE!!");
} deploy();
Print Screen:
```

```
How many number you want to enter ?
5
Enter 5 Numbers :
32
2
3
4
5
Arithmetic Mean = 9

TRY AGAIN? [Y] Yes or [N] No:
```

```
Program # 16:
Source Code:
PrimaryMission() {
unit exponent:
digit base1, result = 1.0;
unit choice:
go {
commence;
post ("Enter base and exponent
respectively: ");
capture (#base1);
capture (#exponent);
post(base1 + " ^ " + exponent + " = ");
phase(exponent != 0) {
result = result * basel;
exponent--;
post (result);
go {
company ch;
post("\n\t\t\t\tTRY\ AGAIN?\ [Y]\ Yes\ or
[N] No: ");
```

```
capture (#ch);
inorder((ch = = "Y") | | (ch = = "y")) {
exponent=0;
base1=0;
result = 1.0;
choice = 1;
otherorder((ch = = "N") || (ch = =
"n")) {
choice = 0;
order {
post("\n\t\t\tError Input!");
choice = 3;
} phase (choice = = 3);
} phase(choice != 0);
post("\n\t\t\tGOODBYE!!");
} deploy();
```

```
inter base and exponent respectively: 3.4
5
3.4 ° 5 = 454.35424
TRY AGAIN? [Y] Yes or [N] No:
```