```
G. Derliton making and working ( a) tipe 1) Harry
 # The while tratement
                     The Proplect of all the woping Phrentures in e & the while it
                                                                                                              Mauli (aghing proper) Husel
               syntag f
                                         while (text-condition)
                                                                                                                                                                                  10 musian
                                          £
                                                  pody of the pool
 In program to Evaluate the Equation y=20? the E polythild with the squatron y=20.
                   wasucs
                   Ent count, n;
                         Print (" Enter the values of r and no " ) rame of the " ) that is the value of rand no " " ) the will be seen that is the contraction of the contr
                        scant (use folid", & x, & n)>
                                                                                                 (0 = = 1 1. mmu & 13 0 = = 8 1. mmu) }
                         y=1.0%
                          count = 1;
                                                                Cum but par a fra nature is pin) frigg.
                         while (count <= n')
                                y=y+000un ("a/1 box & atod pd wantinds for if b.") thring
                                                                                                                                                                                  ילונגוח סן
                                  count++;
                         Prontf (u/n 2=1.6; n=1.d; x to power n=1.4/n", x, not) St pillage
* The do thatement
                                                                                                                                                          on other stations
                                      do
                                                                                                                                                                           for mators ?
                                      body of the Loop
                                                                                                                     mint (" Enter year ages");
                                     P
                                     while (tut - condition);
* The for thatement is ( "al Hor of Haipus we voy ") Hotel
                                for ( 9nottalization; test condition; Increment) way " Harry
                                 body of the loop
                                                                                                                                                                                TOHUM OF
 god not prive ed a table used (c
                         main()
                          & dopg Pntp;
                                 Int ny
                       double q;
                        prenef ( a 2 to power in n 2 to power -n/n");
         SUPPLIED : 01 =0; D< 21 ) ++n)
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5 (V == 0)
                                        ((Coras, (San )) How
    Elle
       P= p # 21
    9=1.0/(double)p;
    byutt (aitioi q it ind it soils ill unitalis) or pro current in as hing
                                          who are grad that non.
                                      100 100 - don may 200
  by ) Hobby
            inclus brund though on the roof terminate on the relation which
                                     counter bauch - for Loop
3) Aboracci number of nth
                                   positioned bound - works work
    # Include < Itdo. h>
                                         Deput all suen number up to M
    #mellede < conto. h>
                                                    المستوادات المسامة
     void marn ()
                                                          ? Comman ini
      Pot num 1=0, num2=1, n,1, fib;
      Clist ();
       Printf ("In Enter the value of n: ");
                               ((a you of an mount with a ray by) Hugh
       Scanf (" ".d", &n);
      for (1=1;1<=n-2;1++)
       9 Alp= num + numz;
                                                 (1:1.2==0)
         num = num 2;
                                                         o moult
         numz=fib;
                                                    ) puter diame, or not
      Print (u)n nth fitomacei number (torm=1,d)=1,d,n, fib);
                                                          int nature) {
     2
4) diplay a pyramid.
                                              nt num, new : o, temps
     #Pollede < Indio. h>
                                       Mant (" entor a number: ");
     # munde < conto. h>
      rold marn (1
       E
                                                f (o=) (mil) dim
       mt-num, 1, y 1 x = 40;
       guach 17
                                      for y, dury to a place one
       month (a enter a number for generaling the pyramid [1]);
       scart ( 4.1.9, 4 mm);
       for ly=0; g<=num; y++)
        8
                           Print (vid is a polindromy printer
           gotoxy (2,4+1);
   suprivio +(1=0-4; 12=4; 14+1) non 101 = 11 1110) initi
```

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byutt (n.1.8911 apicl))
            x=7-8)
      Juen (1)
* seluting a loop.
                                                     (1) (watab) (0.1: p
   · Analyze the problem and see whether 9th required pretest or post text loop
   Prost text loop - do -whole
   pre text loop -> for and while loop.
    delide whether the coop terminates on counter based on sentimed based
            counter band - for loop
                                                   gia to kodumi mengi
             Whitney bound -> while loop.
                                                    Afrillude enclosins
5) pront all such number up to N
                                                    Anched Kromo h
     # mullede xitaio. h>
                                                           void main ()
     fut main() &
         JUF 6' M?
                                      int neum 1=0, neum=1, n,1, fib)
         butt (neutra hin);
         scant (u.r.d", a N)
                                   print ("): solu in value of o: ");
         print ( " Even number up to " d", N);
         for (1=1; 1<=N; +++)
             A (1.1. 5 = =0)
                   by Ht (819" 1);
                                                      num: neuma;
          return o)
      ولو
6) pain drome or not
                         Pant (" In n'h liboracei numboi Harnstad)
      # mclude xirdio. h>
       int mounc) {
          Intrum, rev=0, temp;
                                                      though a phramid.
          montfuento a number (");
                                                     thousand subsubatt
          scant (a of . d", & neem);
                                                     th house & como. h>
          temp = num;
                                                             () alum biai
          while (temp!=0) }
               rev = reux 10 + temp 1/10;
                                                    ion = 1 i h i i mon tul
              itemp = temp 1101 prodokarup not radoruse o 10403 0) 11000
            of Inum == ray
               pronté (end en a paléndrome pri, num):
                   Monte (upl. d & a Not 100 18hd minulation)
          retuen o;
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Front mark (F.
                                                     The formatty opening of
    #Poulude < It dro. h>
    # Include < math. h>
                                                      an of the dayshift
     gut war () &
        Int 1, N, temp , surn, digit, adupts;
                                  The tome to togues whose it though
       brouff (" Enter N; ");
        Scant ("ord", & N);
        month (« Armstrong number up to « d (. ", N) > ( ) = ) rot.
        for (1=1; i<=N; i++)?
            temp=1; sum =0;
             harget = 0; Int t = temp; (++); (1-) + 1 + 2 + 2 | 1 = | 101
             ropule (4=0) 8
                 t=110;
                 ndigth ++;
              3
             while (temp 1 =0) &
                                               i of the permanent up to it.
                 digit = tempel10;
                 Sum = Sum + powedigit, noligital); canonitability
                 temp = temp 110;
                                                             30 alon tal
                                                  int is, no flags
              of Com=E1) month (und 1,1); (11 14 101030) frates
         retuen of
                            ((11 " > p 7, of do sisquin nugedo) decend
     16
    multiplication table
    #Prillide entaro. h>
                                         (++1; (21)=>) (x=1) sol
    Int main () {
                                            } (o== j.1") /
         Int num, 1;
         mont ("Entor a number (");
                                              fo= boll.
         Sant (u 1/4", 4 rum);
                                                       if (flag)
         print (a munipocation table of station, rum))
        for (1=1; i<=10; i++)
              montf ( u/ld x 1/l d & 1/l d/n", num, 1, num +1);
        retuen o;
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atownal strong ns
9. mangle patien of 4
                                                                                                                                     ar include a nation has
             Amelude xitaio. No
                                                                                                                                                           int main () of
              gut magn (12
                                                                                              in 1, 11, 10mp sum digit, will in
                        but 13' us
                         Pranti (a Entol number of rows (");
                        scant (u.van, & n);
                              tor (1=1) 1/4 + 10 (1=1) (1=1) (1=1) (1=1) (1=1) (1=1) (1=1) (1=1) (1=1)
                       -for (1=1; 1<=n) 1++)2
                                                                             o compair goul
                     brent (a ");
                                tor 4=11/6=241-1; j++) (mut - 1 tol (0=11) push
                                   bosutt (a * 11);
                                 brutt (aluu);
                        retreen o;
                                                                                                                        3 (a= 1 dway) Alyan
               3
                                                                                                              considers = tibop
 10.411 promunumber up to N.
              # Include < Itaio. h) soft pobo it pub) and + mus = mu
                int main() {
                             for 1, j, N, flags
                               hant (n sure Me us) (11, 11 1/10) Hound (12 = com) fi
                                scanf ( 44, d 7, & N);
                                                                                                                                                                  then of
                              month (a prome numbers up to it d (", N);
                             for (1=2; 12=N; 1+4) {
                                                                                                                                                 italism lable
  ting=1)
                                                                                                                                                   de citation no
                                      for ( = 2; [ \= 1] 1; ]++)
                                                                                                                                                                         3000
                  (11/1 ==0) {
                                                                                                                                                              num, i;
                           flag=01
                                                                                                      iff ("Error a number:");
                                                                   break;
                                                                                                                                 16 (my 18 "15 / 11) 31
                            of (flag)
                                                       of ( o much puratron table of (11, UB, Ph) Hmm)
                                                                                                                                  (++1; 01=x1; 1=9)
                          when o'r would have goth is a pro) fraid
```

```
#include <stdio.h>
int main() {
   long long int num;
   long long int sum = 0;
   int count = 0;
   for (int i = 0; i < 10; i++) {
       printf("Enter integer %d: ", i + 1);
       if (scanf("%lld", &num) != 1){
            printf("Invalid input. Exiting.\n");
            break;
       if (num > 0) {
            sum += num;
            count++;
       if (sum > 999) {
            break;
       }
   printf("Sum of positive values: %lld\n", sum);
   printf("Number of positive values added: %d\n", count);
   return 0;
supriya@ubuntu:~/Desktop/c/chp6$ ./goto
Enter integer 1: 34
Enter integer 2: 23
Enter integer 3: 12
Enter integer 4: 78
Enter integer 5: 67
Enter integer 6:
98
Enter integer 7: 10
Enter integer 8: 999
Sum of positive values: 1321
Number of positive values added: 8
```

```
int main() {
    int i, count = 0;
    printf("Integers between 1 and 100 not divisible by 2 or 3:\n");
    for (i = 1; i <= 100; i++) {
        if (i % 2 != 0 && i % 3 != 0) {
            printf("%d ", i);
            count++;
        }
    printf("\nTotal count = %d\n", count);
    return 0;
}
supriya@ubuntu:~/Desktop/c/chp6$ ./count
Integers between 1 and 100 not divisible by 2 or 3:
1 5 7 11 13 17 19 23 25 29 31 35 37 41 43 47 49 53 55 59 61 65 67 71 73 77 79 8
3 85 89 91 95 97
Total count = 33
```

#include <staio.n>

```
#include <stdio.h>
int main() {
    int i, j;
    printf("Pattern (a):\n");
    for (i = 1; i <= 5; i++) {
        for (j = 1; j <= 5; j++) {
            printf("S ");
        printf("\n");
    }
    printf("\nPattern (b):\n");
    for (i = 1; i <= 5; i++) {
        for (j = 1; j <= 5; j++) {
            if (i == 1 || i == 5 || j == 1 || j == 5) {
                printf("S ");
            } else {
                printf(" ");
            }
        printf("\n");
    }
    return 0;
}
supriya@ubuntu:~/Desktop/c/chp6$ ./squ
Pattern (a):
5 5 5 5 5
5 5 5 5 5
55555
5 5 5 5 5
Pattern (b):
5 5 5 5 5
        S
S
        S
```

```
#include <stdio.h>
int main() {
   int i, j;
   for (i = 1; i <= 5; i++) {
       for (j = 1; j <= 5; j++) {
            if (i == 3 && j == 3) {
                printf("0 ");
           } else {
                printf("S ");
       printf("\n");
   return 0;
supriya@ubuntu:~/Desktop/c/chp6$ ./o
55555
5 5 5 5 5
S S O S S
5 5 5 5 5
5 5 5 5 5
```

```
#include <stdio.h>
#include <math.h>
int main() {
   double C, d, P;
   double n;
   printf("Enter the original cost (C): ");
   scanf("%lf", &C);
   printf("Enter the depreciation rate (d) (e.g., 0.1 for 10%%): ");
   scanf("%lf", &d);
   printf("Enter the scrap value (P): ");
   scanf("%lf", &P);
if (C <= 0 || P <= 0 || d <= 0 || d >= 1) {
       printf("Invalid input values.\n");
       return 1;
   n = \log(P / C) / \log(1 - d);
   printf("The useful life of the item is approximately %.2f years.\n", n);
   return 0;
supriya@ubuntu:~/Desktop/c/chp6$ ./item
Enter the original cost (C): 1000
Enter the depreciation rate (d) (e.g., 0.1 for 10%): 0.5
Enter the scrap value (P): 1500
The useful life of the item is approximately -0.58 years.
```

```
int main() {
    double e = 1.0, prev_e = 0.0;
    double term = 1.0;
    int n = 1;
    while ((e - prev_e) >= 0.00001) {
        prev_e = e;
        term = term / n;
        e = e + term;
        D++;
    }
    printf("Approximated value of e = \%.5f\n", e);
    printf("Number of terms used = %d\n", n);
    return 0;
}
supriya@ubuntu:~/Desktop/c/chp6$ ./euler
Approximated value of e = 2.71828
Number of terms used = 10
```

#include <stdio.h>

```
#include <stdio.h>
int main() {
   int num, i = 0;
    int binary[32];
    printf("Enter a positive integer: ");
    scanf("%d", &num);
    if (num <= 0) {
        printf("Please enter a positive integer.\n");
        return 1:
   while (num > 0) {
        binary[i] = num % 2;
        num = num / 2;
        i++;
   }
    printf("Binary equivalent: ");
    for (int j = i - 1; j >= 0; j--) {
        printf("%d", binary[j]);
    printf("\n");
    return 0;
}
supriya@ubuntu:~/Desktop/c/chp6$ ./binary
Enter a positive integer: 6
Binary equivalent: 110
```

```
#include <stdio.h>
int main() {
   int num, reversed = 0, digit;
   printf("Enter a number: ");
   scanf("%d", &num);
   int original = num;
   while (num > 0) {
       digit = num % 10;
       reversed = reversed * 10 + digit;
       num = num / 10;
   }
   printf("Original number: %d\n", original);
   printf("Reversed number: %d\n", reversed);
   return 0;
supriya@ubuntu:~/Desktop/c/chp6$ ./digit
Enter a number: 45678
Original number: 45678
Reversed number: 87654
```

```
#include <stdio.h>
int main() {
   int m, i;
    unsigned long long fact;
   printf("Enter a positive integer m: ");
   scanf("%d", &m);
if (m < 0) {
        printf("Factorial is not defined for negative numbers.\n");
        return 1;
   printf("Factorial table:\n");
    for (i = 1; i <= m; i++) {
        fact = 1;
        for (int j = 1; j <= i; j++) {
            fact *= j;
        printf("%d! = %llu\n", i, fact);
   return 0;
supriya@ubuntu:~/Desktop/c/chp6$ ./fac
Enter a positive integer m: 5
Factorial table:
1! = 1
2! = 2
3! = 6
4! = 24
```

```
#include <stdio.h>
int main() {
   int num, sum = 0, digit;
   printf("Enter an integer: ");
   scanf("%d", &num);
   int original = num;
   if (num < 0) {
       num = -num;
   while (num > 0) {
       digit = num % 10;
       sum += digit;
       num = num / 10;
   printf("Sum of digits of %d = %d\n", original, sum);
   return 0;
supriya@ubuntu:~/Desktop/c/chp6$ ./sum
Enter an integer: 342156
Sum of digits of 342156 = 21
```

```
#include <stdio.h>
int main() {
    int num, reversed = 0;
    printf("Enter a positive integer: ");
    scanf("%d", &num);
    if (num < 0) {
        printf("Please enter a positive integer.\n");
        return 1;
    int temp = num;
    int digits = 0;
    for (; temp > 0; temp /= 10) {
        digits++;
    temp = num;
    for (int i = 0; i < digits; i++) {
        int lastDigit = temp % 10;
        reversed = reversed * 10 + lastDigit;
        temp = temp / 10;
    printf("Reversed number: %d\n", reversed);
    return 0;
supriya@ubuntu:~/Desktop/c/chp6$ ./for
Enter a positive integer: 56789
Reversed number: 98765
```