Flow Control in C

Euta Program saddhai siidha nadi jstai baghiraako huncha. Mtlb ki hamle ahile smma lekheko sabai program haru chai 1st Line baata Last line smma siiidhaaa baghirako huncha. Tara kaile kahin hamlai tyesto na chahina ni sakcha. Kaile kahin hamlai euta condition anusar euta ani aarko condition anusar aarko kura dekhauna parney huna sakcha. Tei kura laai Flow Control vanincha. Hamle C ko Flow laai alter garera hamlai je garna mann laageko cha tyo garna milcha. Flow Control ko type haru chai tala ko anusar cha:

- Decision Control
- Loop Control

Decision Control

Mathi vaneko jstai hamle Decision Control le program ko flow lai alter garna sakcham. Decision Control le chai euta condition laai hercha. Tyo Condition true cha vaney euta section laai execute garcha, false cha vaney aarko laai garcha. Decision Control ko Simplest Form vaneko:

if statement
FYI: Syntax vaneko euta function jstai if ko general structure jstai maaney huncha.

Syntax:

```
if ( yo condition true vayo vaney ) {
        yo line execute garney;
}
```

Yo if statement le garney vaneko chai yedi hamle diyeko condition true cha vaney tyo tala patti ko block of code laai execute garcha. Haina vaney kei ni gardaina tyo block of statement execute ni hudaina. Aba tyo condition vaneko chai ke ta? Tala table ma diyieko cha condition haru ke ke huun vanera.

Yo expression	Yo vayo vaney true huncha
x == y	x is equal to y
x != y	x is not equal to y
x < y	x is smaller than y
x > y	x is greater than y
x <= y	x is smaller than or equal to y
x >= y	x is greater than or equal to y

Yaha baata sabai kura sajilai cha except tyo == ra !=. Aba tyo == laai = lekhna paaunna? Vanera sodhnu huncha vaney naai paaudaina. Khaas = vaneko variable declare garna ko laai matra ho ani == vaneko duita variable laai compare garna laai matra ho. So yo kura chai samjhina paryo. Ani != vaneko is not equal to ho tyo matra samjhinu ahile laai tyo vanda badi pachi aaudai garcha. Aba euta example program heram:

```
#include <stdio.h>

int main() {
int a;
printf("Enter a number less than 5");
scanf("%d", &a);

if (a < 5) {
printf("What a obedient fellow!");
}
return 0;
}
```

Yo mathi ko example ma tyesto kei chaina bass euta number 'a' maagyo ani user le input garesi tyo number 5 vanda syaano cha vaney chai What a Obedient fellow! vanera output aauncha ani 5 vanda maathi vayo vaney kei ni aaudaina. Aba chai malai 5 vanda mathi ko aayo vaney chai kei aarkai output dekhauna mann laagyo reyy maanam. Tyo chai kasari garney ta? Tyellai chai:

if-else statement
Yelle chai tyakkai maile vaneko jsto garcha. Yesko Syntax chai:

```
if ( yo condition true ho vaney) {
yo block execute garney
} else {
(tyo condition false ho vaney)
yo block execute garney
}
```

Aba tyo syntax self-explanatory cha. Euta example heresi majjale bujhincha:

```
#include <stdio.h>

int main() {
int a;
printf("Enter a number less than 5");
scanf("%d", &a);

if (a < 5) {
printf("What a obedient fellow!");
} else {
printf("You FIEND! Why didn't you obey me?");
}
return 0;
}
```

Yo program ma ni tyestai tyestai vayeko ho. Bass aba mathi ko condition false cha vaney chai talla patti ko block execute huncha. Jstai maanam maile 7 input diye vaney chai You FIEND! wala aauncha tara maile 3 input diye vaney chai What a obedient waala aauncha.

Hamle yetti thahapaayesi aba euta simple tara ekdamai important program lekhna sakcham. Tyo chai aba ahile nai lekhna try garnu. Answer chai tala Example Programs ma cha tara aafu le try garesi balla lekhnu hola
Q: WAP to input two numbers and print which one is the greater one.

Aba if-else ko aarko pani euta structure huncha. Yo chai:

```
if (yo condition true ho vaney) {
yo execute garney
} else if (yo condition true ho vaney) {
yo execute garney
.
.
.
.
} else {
(kunai ni true haina vaney)
yo execute garney
}
```

Yesma chai aba dheraiii condition haru laai use garney ho. Yo chai aba kaha use garincha vanera vanda kheri jstai percentage ko anusar Distinction, First Division tyesto lekhna laai use huncha. Tyo vanisakepachi tyei example diim na ta:

```
#include <stdio.h>

int main() {
float per;
printf("Enter Percentage: ");
scanf("%f", &per);

if (per >= 80) {
printf("You got a Distinction!");
} else if (per >= 70) {
printf("You got First Division!");
} else if (per >= 60) {
printf("You got Second Division!");
} else {
printf("You got less than 60%");
}
return 0;
}
```

Yo bujhna chai aba yesari heram.

Suru ma ta if (per >= 80) wala condition check huncha. Tyo true cha vaney You got a Distinction wala execute huncha. Jstai hamle percentage 89 enter gareko chamm vaney chai You got a distinction vanney message aauncha ani **aru kura kei ni execute hudaina.** Sidhai talla patti jaancha ani program end huncha. Ani aba jstai maanam ki maile input 76 diyeko chu. Tyo bela chai aba first ko condition ta of

course false ho tei vayera aba else ma jaancha ani tyo else ma aarko if cha tyaha chai hamro condition true vayeko cha. Tei vayera tyo First Division wala message print huncha ani **aru kura kei ni execute hudaina.** Program end huncha. Ani tyestai huncha tapai haru aafai pani try garnu yo.
Example Programs haru ma cha if-else-if ko aru example haru!

More Complex Decisions
Kaile kahin hamlai euta matra condition le pugeko hudaina. La jstai euta exam mai aairakhney question ko example ligam na ta. Euta program lekham jaha chai 3ta Number input garna parcha ani 3ta madhye kun chai greatest ho print garna parney vayo vaney hamle ke garna milcha ta? 3ta Number input garna dherai gaaro kam vayena tara tyespachi ke garney ta? Logic kasto huncha socham ekchin laai.
Pahila ta 3ta Number a, b, c ma sabse vanda thulo number kasari patta lagauney? Yedi a chai b ra c duitai vanda thulo cha vaney a sabai vanda thulo huncha. Tyesari nai aba b chai a ra c vanda thulo cha vaney b chai sabai vanda greatest number huncha. Ani c ma ni tyestai logic vayo.
C Programming ma yesto chai lekhna paunna a > b > c. Tei vayera yesari garna mildaina. Kasari garney?
Aba hami padhchau Logical Operators haru ko barema.

Logical Operators

Class 11 ma padhnu vayeko hola hajur le AND Gate ra OR Gate ra NOT gate. Yei ho Logical Operators haru vaneko.
&& vaneko **AND** Gate ho
|| vaneko **OR** Gate ho ani
! vaneko **NOT** Gate ho.

&& le chai yedi sabai condition haru true cha vaney matra true output dincha. Tara euta matra condition ni false cha vaney purai False huncha. Hamle yo mathi ko program lekhna yo use garcham

|| le chai yedi sabai condition haru madhye euta ki euta vanda badi true cha vaney true output dincha. Tara sabai false cha vaney chai false output dincha.

! le chai True laai false banauncha ra False laai true banauncha.

Aba Maathi ko Program lekham ra yo example le thaha huncha yo Logical Operators kasari use garney vanera.

```
#include <stdio.h>

int main() {
int a, b, c;
printf("Enter three numbers: ");
scanf("%d %d %d", &a, &b, &c);

if (a > b && a > c) {
printf("%d is the greatest number", a);
} else if (b > a && b > c) {
printf("%d is the greatest number", b);
} else {
printf("%d is the greatest number", c):
}

return 0;
}
```

Aba yaha mathi ke vairakheko cha vaney, suru ko condition heram (a > b && a > c). Yesma chai duita condition haru cha ra duita condition ko bich ma euta and rakhiyeko cha. And nai kina rakhiyeko vanda alli sochna parcha. A greatest huney vaneko ta A chai b vanda thulo ANI c vanda ni thulo ta hunai paryo ni ta? Tei vayera hamle and use gareko. Ani tyo duitai condition true huncha vaney ta hamlai thaha huncha ni ta a nai sabai vanda thulo ho vanera tei vayera ani tyaha a is greatest vanera print gareko. (Tyaha a is greatest lekhnu vanda ni kun chai number greatest ho dekham vanera a ko value print gareko)

Ani else if ma pani b greatest cha ki nai vanera check garney. Ani a ni thulo chaina ra b ni thulo chaina vaney ofc c matra ta thulo huncha ta. Tei vayera else use garera c thulo huncha vanera lekheko.

Aba aarko ni euta Example heram. Yashavant Kanetkar ko "Let Us C" vanney book ma euta ekdamai ramro question cha tyo question Try garam na ta.

```
Q. A certain grade of steel is graded according to the following conditions:
i. Hardness must be greater than 50
ii. Carbon content must be less than 0.7
iii. Tensile strength must be greater than 5600

The grades are as follows:

Grade is 10 if all three conditions are met
Grade is 9 is conditions (i) and (ii) are met
Grade is 8 if conditions (ii) and (iii) are met
Grade is 7 if conditions (i) and (iii) are met
Grade is 6 if only one condition is met
Grade is 5 if none of the conditions are met.

WAP, which will require the user to give values of hardness, carbon content and
tensile strength of the steel under consideration and output the grade of the
steel.
```

Aba yo question herda laamo dekhincha tara tyesto gaaro chaina. Yo garna try garam ani Operator haru kasari use garney alikati bujhincha. Pahila ta hamle hardness, carbon content ra tensile strength user snga maagna paryo. Ani sabai condition haru check garera tyo anusar hamle condition haru banayera Steel ko grade patta lagauna paryo. Aba sabai conditions check gararm.

Let's assume ki hardness h ho, carbon content c ho ani tensile strength t ho

Grade is 10 if all three conditions are met.

So sabai condition meet huna paryo. Yeslai aba tintai condition haru true huna paryo. Tei vayera hamro condition ma && use garna parney vayo:

```
(h > 50 && c < 0.7 && t > 5600)
```

Grade is 9 if conditions (i) and (ii) are met.

Aba yesma chai duita condition matra herney ho. Tara vaako duita condition ma ni duitai true huna parcha tei vayera && nai use garna paryo:

```
(h > 50 && c < 0.7)
```

Grade is 8 if conditions (ii) and (iii) are met.

Yesma ni hamle duita matra condition herney ani duitai true huna parney vayeko le && lekhna paryo:

```
(c < 0.7 && t > 5600)
```

Grade is 7 if conditions (i) and (iii) are met.

Yesma ni tyestai nai vayo.

```
(h > 50 && t > 5600)
```

Grade is 6 if only one condition is met.

Aba yesma chai aayo aarko. If only one condition is met vaneko cha tyesko matlab kun chai logical operator use garda thik hola? Of course, || (OR) use garna parney vayo. Tintai condition ma euta true vayo vaney Grade 6 huney vayo:

```
(h > 50 || c < 0.7 || t > 5600)
```

Grade is 5 if none of the conditions are met.

Yo vaneko aba else case vayo.

Purai Program lekham aba:

```
#include <stdio.h>

int main() {
int h, t;
float c;

printf("Enter hardness, carbon content and tensile strength of the steel: ");
scanf("%d %f %d", &h, &c, &t);

if (h > 50 && c < 0.7 && t > 5600) {

printf("The Grade is 10");
```

```
} else if (h > 50 && c < 0.7) {

printf("The Grade is 9");

} else if (c < 0.7 && t > 5600) {

printf("The Grade is 8");

} else if (h > 50 && t > 5600) {

printf("The Grade is 7");

} else if (h > 50 || c < 0.7 || t > 5600) {

printf("The Grade is 6");

else {

printf("The Grade is 5");

}

return 0;
}
```

See? It wasn't too bad. Aru example haru Example Programs ma chann.

switch-case

Yo part testo important chaina tara exam ma aauna sakney vayeko le alikati matra vaye ni vanna parcha. Switch Case le chai euta variable lincha ani tyo variable ko dherai case haru hercha. Mtlb ki euta variable ko value 1 cha vaney yo garney vancha haina 2 cha vaney aarko garr vancha.

Syntax:

```
switch (variable) {
case constant1:
[Block of Code]
break;

case constant2:
[Block of Code]
break;

.
.
.
.
```

```
default:
[Else Case]
}
```

Yo chai euta main menu banauna use garincha dherai. Jstai euta Calculator ko jstai example heram:

```
#include <stdio.h>

int main() {
int a, b, ch, result;

printf("Enter any two numbers: ");
scanf("%d %d", &a, &b);

printf("\n Enter a Operation");
printf("\n1. Addition \n 2. Subtraction \n 3. Multiplication \n 4. Division \n");
scanf("%d", &ch);

switch(ch) {

case 1:
result = a+b;
break;

case 2:
result=a-b;
break;

case 3:
result = a * b;
break;

case 4:
result = a / b;
break;

default:
printf("\n Wrong Choice. The Result will thus be a random number.");
}

printf("\n The Result is: %d", result);

return 0;
}
```

Yo ta yetikai herda kheri ni bujhincha. Yo Program run garda kheri number haalepachi euta menu jsto aauncha ani tyo menu ma maanam maile 1 dabaye vaney first ko case execute huncha. Haina 3 enter garey vaney 3rd Case Execute huncha. Tei ho. Testo important chaina yo tara kei project banauda kheri kaam laagna sakcha so dimag ma rakhirakheko ramro.

Examples of Decision Control Questions

WAP to find the smallest number among three numbers.

```
#include <stdio.h>

int main() {
int a, b, c;

printf("Enter any three numbers: ");
scanf("%d %d %d", &a, &b, &c);

if (a < b && a < c) {
printf("%d is the smallest", a);
} else if (b < a && b < c) {
printf("%d is the smallest", b);
} else {
printf("%d is the smallest", c);
}
return 0;
}
```

WAP to find the middle number among three numbers

```
#include <stdio.h>

int main() {
    int a, b, c;
    printf("Enter any three numbers: ");
    scanf("%d %d %d", &a, &b, &c);

    if (a > b && a < c || a > c && a < b) {
        printf("%d is in the middle", a);
    } else if (b > a && b < c || b < a && b > c) {
        printf("%d is in the middle", b);
    } else if (c > a && c < b || c < a && c > b) {
        printf("%d is in the middle", c);
    }
    return 0;
}
```

WAP to find the age group on the basis of:

Age	Group
0-12	Child
13-19	Teenage
20-40	Adult
Above 41	Old

```
#include <stdio.h>

int main() {
int age;

printf("Enter age: ");
scanf("%d", &age);

if (age >= 0 && age <= 12) {
printf("Your Age Group is Child");
} else if (age >= 13 && age <= 19) {
printf("Your Age Group is Teenage");
} else if (age >= 20 && age <= 40) {
printf("Your Age Group is Adult");
} else if (age >= 41) {
printf("Your Age Group is Old");
} else {
printf("Invalid Input");
}
return 0;
}
```

Loop Control

Aarko Flow lai control garna milney concept vaneko Loop Control ho. Loop vaneko Programming ma sabai vanda important concept ho. Loop haru Game ma sabai vanda badi use vairakheko huncha. Jstai maanam ki malai 1 dekhi 5 smma number haru print garna mann laagyo. Aba euta tarika ta:

```
#include <stdio.h>

int main() {
printf("1 \n 2 \n 3 \n 4 \n 5");
return 0;
}
```

5 smma ta thikai cha. Tara la maanam ki malai 100 smma print garna mann laagyo. Ki ta 1000 smma laagyo rey. Aba tyo bela ni hamle yesari nai lekhera basirakhney ta? Haina. Tyei bela hamlai looping kaam laagcha. Looping vaneko chai euta condition meet na huunjel smma eutai statement haru repeat garney ho. Aba yesto garesi kasari kaam laagcha ta aginai vaneko scenario ma? Pahila Loop ko euta type heram ani tyespachi thaha huncha.

while loop

Syntax:

```
while (condition) {
// block of code to be looped
}
```

Aba yo while loop vaneko k ta? while loop le euta condition laai hercha. Ani jati berr smma tyo condition true huncha tyeti berr smma tyaha vaako block of code laai tyo execute garirakhcha. Aba haamlai kasari kaam laagney vayo ta yo? Euta Example heriyo vaney bujhincha:

```
#include <stdio.h>

int main() {
int i=1;

while (i <= 10) {
printf("%d \n", i);
i = i + 1;
}
return 0;
}
```

Yaha ke vairakheko cha ta? Pahila ta euta variable declare garney. Yo variable ma hamle aafno number store garcham ani chaiyeko anusar tyesma operation garcham. Hamle yo variable lai counter variable vancham ra yo usually i lekhincha tara je lekhda ni huncha. Aba suru ma while ko condition heram. **(i <= 10)** Yo condition ta ahile true cha ni ta? i ko value ahile 1 cha ni ta. Tei vayera tyo tala patti ko printf aba execute huncha. Aba suru ma 1 print vayo. Tyespachi i ko value 1 le increase vaako cha **i = i + 1** le garda. Aba feri maathi gayo kina vaney while vaneko loop ho euta. Ahile ni condition true cha kina vaney i ko value aba 2 cha. Ani aba i print huncha mtlb 2 print vayo ani feri euta value badyo ani i ko value 3 vayo. Tyesari 3 print vayo 4 ni vayo ani tyesto huda huda 9 smma print vayo maanam. Aba i ko value 10 cha. 10 ma ni condition true cha tei vayera 10 ni print huncha. Jstai condition ma **(i < 10)** vaako vaye chai i ko value 10 vaako vaye condition false hunthyo ani 10 chai print hunthyena. Aba condition false vayepachi loop exit huncha ani return 0 ma gayera program exit huncha.

NOTE: Condition ma Logical Operators jstai && ra || pani use garna milcha.

Common Trap in a Loop

Hamle Loop kati choti execute vaako cha count garna laai euta counter variable banauncham. Ani usually tyo counter variable mai condition raakhna parney huncha. Tara tyo counter variable ko condition rakhera counter variable lai kei form le change garna birsina vayena. Jstai ki yo program ma:

```
#include <stdio.h>

int main() {
int i = 1;

while (i <= 10) {
printf("%d \n", i);
}
return 0;
}
```

Yo Program ma chai hamle euta condition rakheko cham ani tyo condition chai program jati run vaye ni change huney waala chaina. Kina vaney tyo variable lai hamle kei change garekai chainam. Yesto vayo vaney euta infinite loop bancha ani tyo program execute vaako vai vaako vai vaako vai vairakhcha. Vanesi yeti chai samjhina paryo ki while loop ma euta yesto condition huna paryo jaha chai tyo condition kunai point of time ma false huncha natra vaye tyo euta infinite loop bancha.

Tips for Loops
Euta Loop ma counter variable lai increase nai garna parcha vanney haina. Decrease pani garna milcha. Yo chai hami number haru reverse order ma print garna paryo vaney garcham.

```
#include <stdio.h>

int main() {
int i = 10;

while (i >= 1) {
printf("%d \n", i);
i = i - 1;
}
return 0;
}
```

Loop haru ma floating counter variable ni use garna milcha.

```
#include <stdio.h>

int main() {
float i = 1.0;
```

```
while (i <= 10) {
printf("%f \n", i);
i = i + 0.1;
}
return 0;
}
```

Aginai hamle use garirako **i = i + 1** lai choto ma i++ pani lekhna milcha. Ani i = i - 1 lekhda i-- pani lekhna milcha. Tara i++++ tyesto lekhna chai mildaina haiii.

```
#include <stdio.h>

int main() {
int i = 1;

while (i <= 10) {
printf("%d \n", i);
i++;
}
return 0;
}
```

for loop

Yo aba aarko type ko loop vayo. Yesle pani while loop ko jstai nai kaam garcha tara counter variable ko declaration, condition ra operation sabai ekkai thaau ma garcha for loop le tei vayera garna alli sajilo huncha.

Syntax:

```
for (variable declaration; condition; counter operation) {
// block of code to be looped
}
```

Jstai aba 10 smma print garam yesma:

```
#include <stdio.h>

int main() {

for (int i=1; i<=10; i++) {
printf("%d \n", i);
}
return 0;
```

```
}
```

Yo herda kheri while vanda cleaner dekhincha tei vayera dherai jasto programmer haru le for loop nai use garirako hunchan. Loop ko aarko euta type ni cha tara pachi loop ko example haru diida for loop nai use garera aauncha answer haru ani exam ma kaile ni yei loop use garney vanera specify gareko hunna.

do-while loop
Pahila ko duita loop ma chai suru mai counter variable ko condition check huncha. Mtlb ki suru mai condition false cha vaney tyo Loop execute hudaina. Jstai:

```
#include <stdio.h>

int main() {

for (int i = 5; i <= 4; i++) {
printf("Hello I Was Executed!");
}

return 0;
}
```

Yo Program ma chai loop execute nai hudaina kina vaney condition false cha suru mai.

Aba do-while loop ma chai suru ma condition check na vaikana last ma huncha. Aba heram:

```
#include <stdio.h>

int main() {
int i = 5;

do {
printf("Hello I was executed!");
i++;
} while (i <= 4);

}
```

Yesma chai loop ek choti matra vaye ni execute huncha.

Examples of Loop Questions

WAP to find the sum of first n natural numbers using for loop

```
#include <stdio.h>

int main() {
int n, sum=0;

printf("Enter n: ");
scanf("%d", &n);

for (int i=1; i<=n; i++) {
sum = sum + i;
}
printf("The Sum is: %d", sum);
return 0;
}
```

NOTE

Mathi sum ko variable ma =0 kina gareko vaney C ko purano version haru ma chai euta variable lai declare garda kheri euta random value tyo variable laai dinthyo. Ani tyo value laai hamle Garbage Value vancham. Yo Problem lai solve garney vaneko Garbage Collection le ho ani aaja voli naya compiler haru ma yo feature cha. Tara practical exam ma purano compiler use garna parna sakcha tei vayera yesto lekhney baani paareko ramro.

Yo Program ma chai sum = sum + i garda kheri i ko value sum ma joddidai gayesi natural number haru ko sum tyaha sum ma aayera basney vayo.

WAP to display the multiplication table of an inputted number using loop.

```
#include <stdio.h>

int main() {
int a;

printf("Enter a number: ");
scanf("%d", &a);

for (int i = 1; i<= 10; i++) {
printf("%d x %d = %d", a, i, a*i);
}
return 0;
```

```
}
```

WAP to find factorial of a given number.

```
#include <stdio.h>

int main() {
int a, fac=1;

printf("Enter a number: ");
scanf("%d", &a);

for(int i = 1; i<=a; i++) {
fac = fac * i;
}
printf("The Factorial is: %d", fac);
return 0;
}
```

WAP to display the fibonacci series upto 10th Term.

```
#include <stdio.h>

int main() {
int a=1, b=1;

for (int i=1; i<=5; i++) {
printf("%d %d", a, b);
a = a + b;
b = a + b;
}
return 0;
}
```

Complicated Forms of Loops

Yo part chai exam ko point of view ma tyesto important ta chaina tara Loop bujhna ko laai ekdamai important cha. Pahila ta

Nested Loop
Yo Loop chai pattern haru ma use huncha badi. Nested Loop vaneko chai euta loop ko vitra aarko loop ho. Jstai ki euta pattern banauna try garam:

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```

```
#include <stdio.h>

int main() {

for(int i=1; i<=5; i++) {

for (int j=1; j<=i; j++) {
printf("%d ", j);
}

printf("\n");
}

return 0;
}
```

Aba yaha chai ke vairakheko cha ta? Pahila ta suru ko loop laai heram. Yesma pahila ta i ko value 1 cha hai ani tala gayera aarko j wala loop ma pasya cha. Aba yaha j 1 baata suru vayera i smma jaancha tyo condition j<=i vaako vayera. Mtlb ahile i vaneko ta 1 cha tei vayera j ko value 1 matra huncha ahile laai ani 1 print huney vayo. Tyesari aba tala patti line change garna paryo kina vaney 1 print garesi tyaha pattern ma line change vaako cha tei vayera \n lekheko. Ani aba first loop sakkyo ani i ko value aba 2 vayo. Ani j ko loop ma pugesi j 2 smma jaaney vayo ani 1 ra 2 print huney vayo. Tyesari nai loop hudai jaancha hudai jaancha ani mathi ko pattern print huncha.

Aarko euta pattern ko garam aba:

```
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
```

Yo ni aginai jstai nai ho tara yesma key chai ke ho vaney tyo heram ta. 2nd line ma 2 matra cha. Vanesi tyo second line ma ta hamro i ko value ni 2 huncha. Hamle

aginai print garney bela i gareko thyem ahile chai j garna paryo tyeti matra ho difference.

```
#include <stdio.h>

int main() {

for(int i=1; i<=5; i++) {

for (int j=1; j<=i; j++) {
printf("%d ", i);
}

printf("\n");
}

return 0;
}
```

Loop Interruption
Yo pani tyesto important chaina programming ko sense ma tara kaile kahin exam ma definition sodhna sakcha tei vayera bujhera chai basda ramro.

break
Euta Loop lai alli chito exit garna paryo vaney hami break use garcham. Jstai ki aba:

```
#include <stdio.h>

int main() {

for(int i=1; i<=10; i++) {
printf("%d \n", i);

if (i >= 5) {
break;
}

}

return 0;

}
```

Aba yaha chai tyo break le garda 5 print vayesi loop terminate huncha.

continue
continue le chai euta loop cycle laai skip garney kaam garcha. Jstai ahile loop ko value 2 huda kheri continue statement aayo vaney tyo 2 lai skip garera sidha 3 ma jaancha.

```
#include <stdio.h>

int main() {

for(int i=1; i<=10; i++) {

if (i == 2) {
continue;
}

printf("%d \n", i);

}

return 0;
}
```

Yesma chai aba 2 skip huncha ani 3 ma jaancha tei vayera 1 3 4 5 ... 10 print huncha.