PPS MINI PROJECT

WITH C

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GUESSING GAME

It's a simple program with while loop and other conditional statements. Generates some random number we have to guess it , we can play again and again at single run or can exit .

Some in-built functions are used here.

srand();

- Initializes the randomizer based on the given integer number

time(NULL);

- Returns the current time in seconds

srand(time(NULL));

- Initializes the randomizer based on the current time

rand();

- Based on the initialized randomizer it generates a random number between 0 and maximum

Code :

```c
#include <stdio.h>
#include <stdlib.h>
#include <time.h>
#include <stdbool.h>
int main()
{
    int randnum,num;
```

```c
    bool condit=true;
    char ch='y';
    printf("\n\t\t\tWelcome to number guessing game\n\n\n");

    srand(time(NULL));
    randnum=rand()%1000;
    printf("Guess the number between 1 to 1000!!!\n");
    while(condit)
    {
    scanf("%d",&num);
     if (randnum == num)
     {
         printf("Congratualion You Guessed number correctly!!!\n");
         printf("do you wanna guess again? (y/n):");
         scanf(" %c",&ch);
         if (ch=='y')
         {
           randnum=rand()%1000;
           printf("Guess the number between 1 to 1000!!!\n");
           condit=true;
         }
         else if (ch=='n')
         {
             printf("Thanks for playing\n");
             condit=false;
         }
     }
     else if (randnum > num)
     {
         printf("Your Choosen Number is lower number, Choose something
higher.\n");
     }
     else if (randnum < num)
     {
         printf("Your Choosen Number Is Higher number, Choose Something
lower.\n");
     }

     }return 0;
}
```

Output :

```
                    Welcome to number guessing game


Guess the number between 1 to 1000!!!
500
Your Choosen Number Is Higher number, Choose Something lower.
400
Your Choosen Number is lower number, Choose something higher.
450
Your Choosen Number Is Higher number, Choose Something lower.
425
Your Choosen Number is lower number, Choose something higher.
440
Your Choosen Number Is Higher number, Choose Something lower.
430
Your Choosen Number is lower number, Choose something higher.
435
Your Choosen Number Is Higher number, Choose Something lower.
433
Congratualion You Guessed number correctly!!!
do you wanna guess again? (y/n):y
Guess the number between 1 to 1000!!!
300
Your Choosen Number is lower number, Choose something higher.
500
Your Choosen Number is lower number, Choose something higher.
600
Your Choosen Number is lower number, Choose something higher.
700
Your Choosen Number is lower number, Choose something higher.
800
Your Choosen Number Is Higher number, Choose Something lower.
740
Your Choosen Number Is Higher number, Choose Something lower.
720
Your Choosen Number is lower number, Choose something higher.
733
Your Choosen Number Is Higher number, Choose Something lower.
725
Your Choosen Number is lower number, Choose something higher.
727
Congratualion You Guessed number correctly!!!
do you wanna guess again? (y/n):n
Thanks for playing
PS C:\Users\vibro\Desktop\projects\c mini> █
```
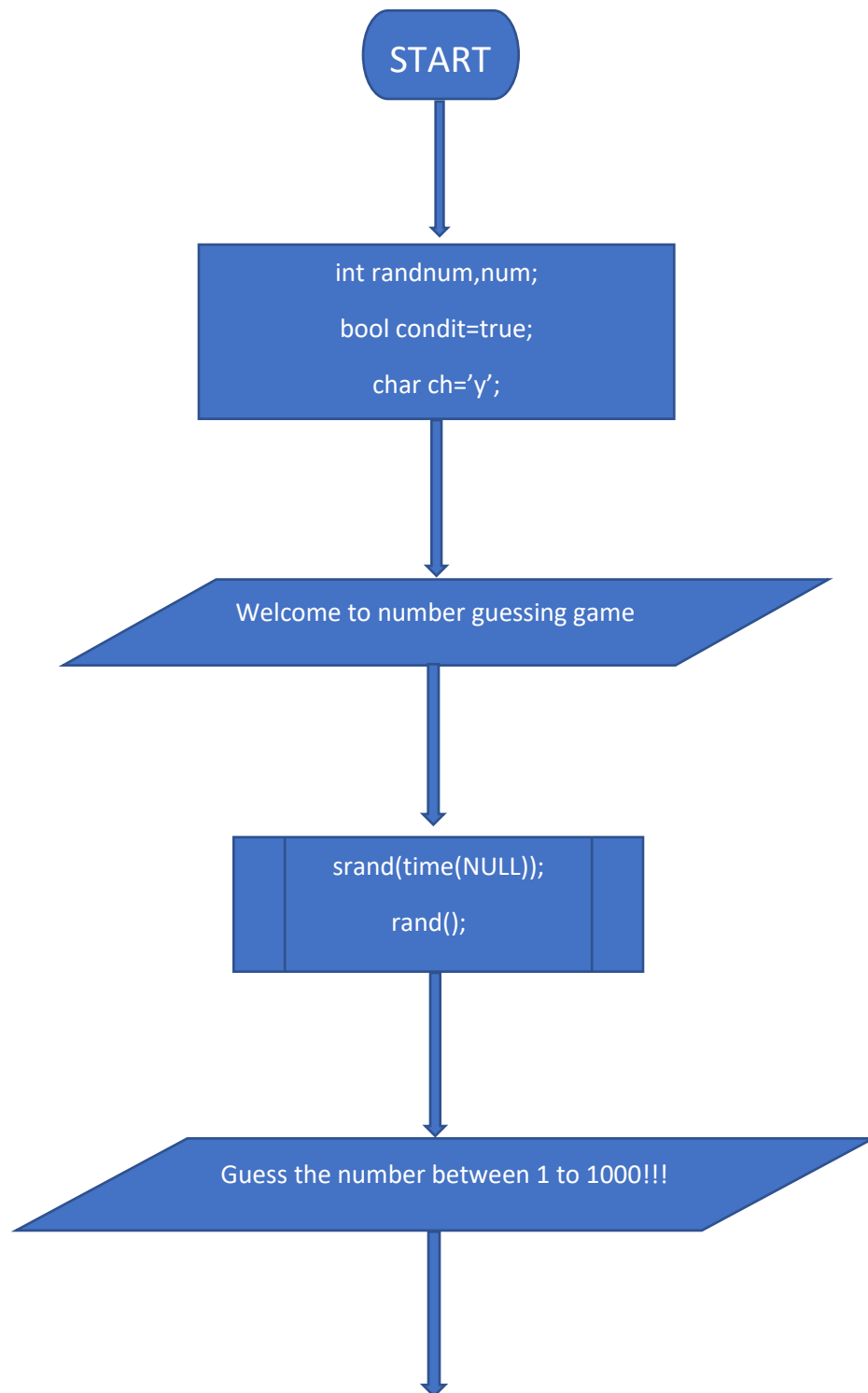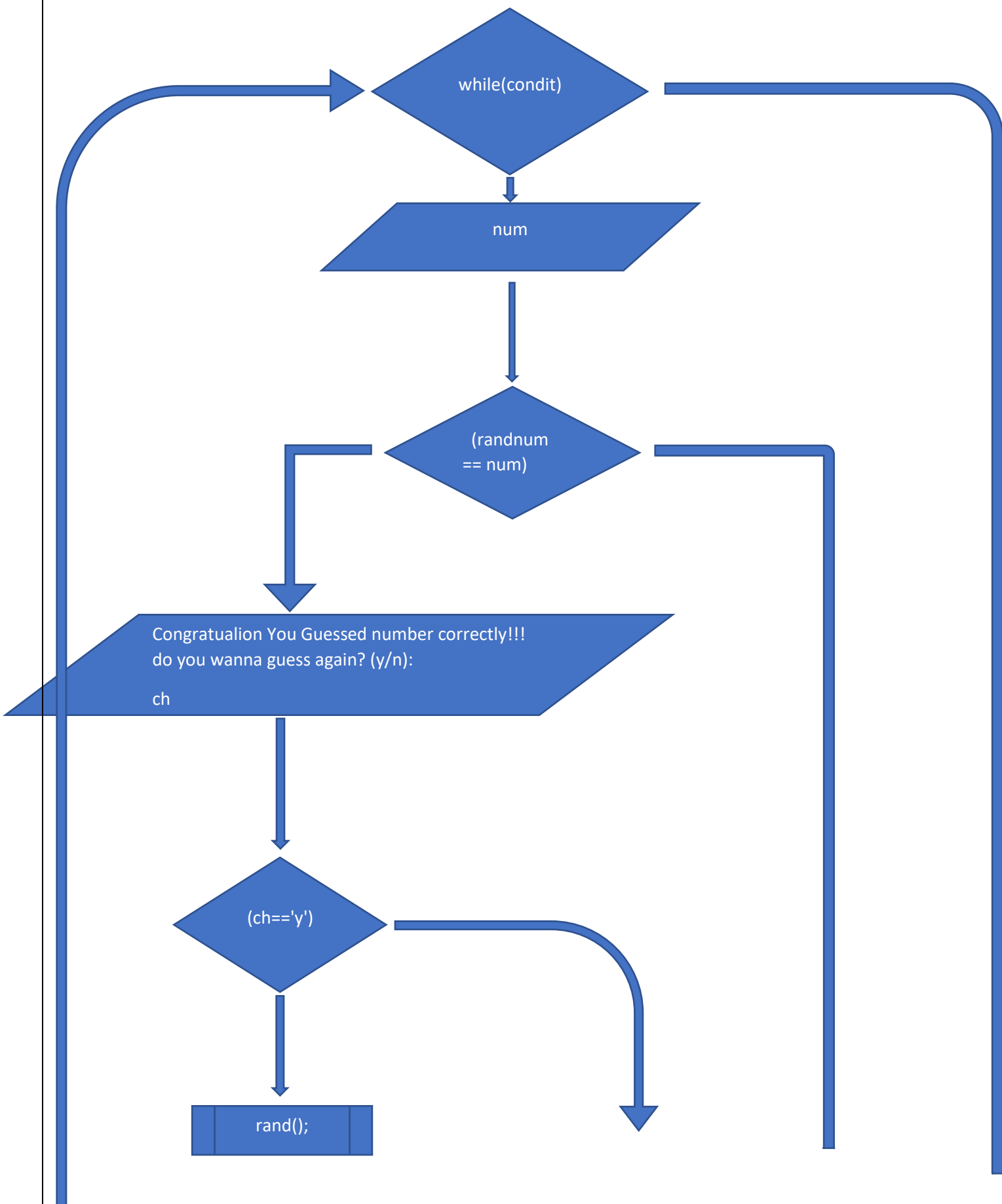
Flow Chart :

START

int randnum,num;

bool condit=true;

char ch='y';

Welcome to number guessing game

srand(time(NULL));

rand();

Guess the number between 1 to 1000!!!

```
        while(condit)

           num

      (randnum
       == num)

Congratualion You Guessed number correctly!!!
do you wanna guess again? (y/n):

ch

      (ch=='y')

         rand();
```

```
                                              (ch=='n')

  Guess the number between 1 to 1000!!!

                                              Thanks for playing

              condit=true;

                                              condit=false;

                                                                            randnum
                                                                            > num

         Your Choosen Number is
         lower number, Choose
         something higher.

  Your Choosen Number Is
  Higher number, Choose                        randnum <
  Something lower.                              num

                                      STOP
```
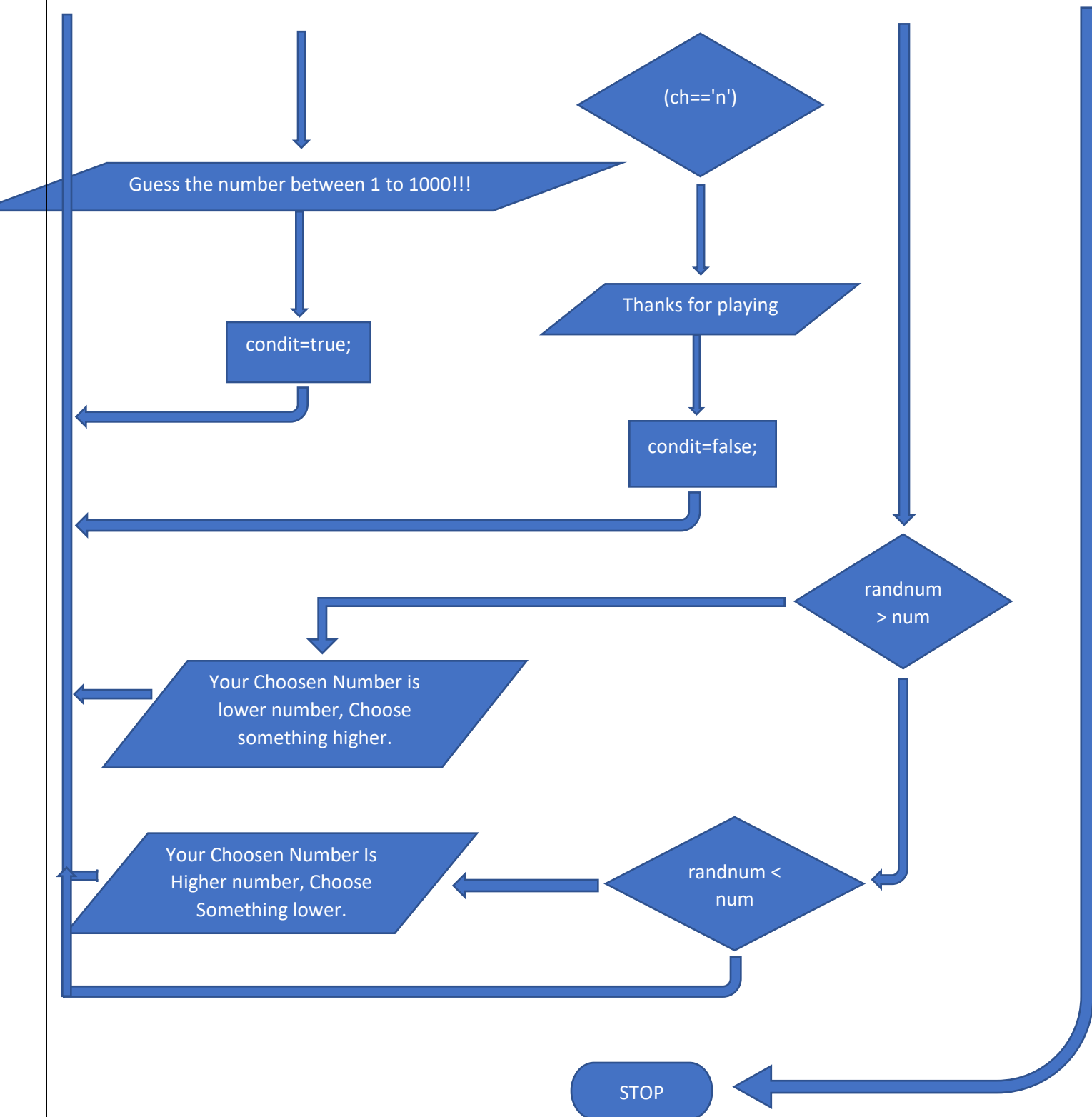
First two variables (randnum,num) declared with int type , next condit variable declared and initialized with (true) value (Bool type) then ch variable with char type . print "Welcome to number guessing game". srand(time(NULL)); inbuilt function which Initializes the randomizer based on the current time , rand(); Based on the initialized randomizer it generates a random number between 0 and maximum (randnum=rand()%1000;) here it generates value between 1 to 1000And assigned to randnum. print "Guess the number between 1 to 1000!!!". Now control enters while loop condition is checked if the condition is true, the loop starts to execute, first it gets input from the user and which is stored in variable num then it's compared with randomly generated value if its true print "Congratualion You Guessed number correctly!!!""do you wanna guess again? (y/n):" if u want to play again type 'y', if u type 'y' it continues the loop again from first or else if its 'n' it shows this msg 'Thanks for playing' and then condition changes to false, loop terminates program ends. Now if the randomly generated number is not equal to user input, then the control goes to check another condition (randnum > num) if its true it shows "Your Choosen Number is lower number, Choose something higher." Else it goes with another condition (randnum < num) if it's true it shows "Your Choosen Number Is Higher number, Choose Something lower.". Again, the random number is checked with user input like this loop continues until the desired output is printed and the condition becomes false. once the condition becomes false the loop ends and program stops. Simple it just works on "trial and error" method.

Algorithm :

Step 1: Start

Step 2: Create variables (randnum,num,condit,ch)

Step 3: Generates random number between 1 to 1000

Step 4: while loop if the condition is true

Step 5: Get input(number to be guessed)from user

Step 6: The randomly generated number is compared with user input

Step 7: If it is true print "Congratualion You Guessed number correctly!!!" and ask "do you wanna guess again? (y/n):"

Step 8: Type 'y' to play again – once again the same loop happens

Step 9: Type 'n' to exit ,it exits with message "Thanks for playing"

Step 10: If the randomly generated number is not equal to user entered input it checks another two conditions

Step 11: If the randomly generated number is greater than user inputPrint message "Your Choosen Number is lower number, Choose something higher."

Step 12: If the randomly generated number is greater than user inputPrint message "Your Choosen Number is Higher number, Choose something lower."

Step 13: The loop runs once again (The randomly generated number is compared with user input) to check whether it is equal , it runs until user input equals with random number. Loop ends

Step 14: Stop