C++ Class 20 /05/2024

Loop / Iteration

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| There are there type of loop   1. do-while loop 2. while loop 3. for loop |
| do-while  in this do while 1 time is compulsory to run the program.  Do while loop check condition ,after running first time block of code.   |  |  | | --- | --- | | Syntax  variable initialization  do{  //statements  Increment/decrement  }while(condition);   |  | | --- | | // Program  #include <iostream>  using namespace std;  // namespace std;  int main()  {      int a = 1;      do      {          cout << a << endl;          a++;      } while (a <= 10);  } |   // Program  #include <iostream>  using namespace std;  // namespace std;  int main()  {      int a = 1;      do      {          if (a % 2 == 0)          {          cout << a << endl;          }            a++;      } while (a <= 10);  } | |

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| #include<iostream>  using namespace std;  int main(){        int a=10;      do{          cout<<a<<endl;          a--;      }while(a>=1);  } |
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| while |
| While ()  {  //code/statements  Increment/decrement;  } |
| #include<iostream>  using namespace std;  int main(){      int a=1;      while (a<=10)      {          cout<<a<<endl;          a++;      }      } |

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| --- |
| #include<iostream>  using namespace std;  int main(){      int a=10;      while (a>=1)      {          cout<<a<<endl;          a--;      }      } |
| Wap to find out the given number is Armstrong number or not? 153  #include <iostream>  using namespace std;  int main()  {     // armstrong number      int n;      cout<<"Enter number : ";      cin>>n;//153      if (n>=100 && n<1000)      {          int a=n/100;  //a=1          int b=(n%100)/10;  // b=5          int c=(n%100)%10;  //c=3          if (a\*a\*a+b\*b\*b+c\*c\*c==n)          {              cout<<"Armstrong number ";          }          else          {              cout<<"Not Armstrong number ";          }      }      else{          cout<<"Please enter valid input";      }      int num, temp,rm=0;      cout << "Enter number :";      cin >> num; // 153      temp = num;        if (num > 99 && num < 1000)      {          while (num > 0)          {              int a = num % 10;    // a=3      //num=15,a=5   // a=1,num=1              rm = rm + a \* a \* a; // rm=0+3\*3\*3=27  // rm=27+5\*5\*5=152 // rm=152+1\*1\*1=153              num = num / 10;      // num=153/10=15  //num=15/10=1  // num=1/10=0          }          if (rm==temp)          {              cout << "Armstrong Number";          }          else          {              cout << "Not Armstrong number";          }      }          else          {              cout << "Please Enter Three digit number";          }  } |
| Palindrome number reverse 121=121 Palindrome number or not  #include <iostream>  using namespace std;  int main()  {          // polindrome number           int n, sum = 0, rem;           cout << "Enter number : ";           cin >> n; // 121          int realNum = n;  // store the real value of n for commering the value of if condition          if (n > 99 && n < 1000)          {              while (n != 0)              {                  rem = n % 10;           // rem=1  last digit       // rem=2              //rem=1                  sum = (sum \* 10) + rem; // sum=0  sum=(0\*10)+1=1  // sum=(1\*10)+2=12      //sum=(12\*10)+1=121                  n = n / 10;             // n=121/10 =12          // n=12/10=1             //n=1/10=0              }              if (sum == realNum)              {                  cout << "Palindrome number  ";              }              else              {                  cout << "Not Palindrome number ";              }          }          else          {              cout << "Please Enter 3 digit number";          }      } |
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| Hints please remember it is must |
| **For loop** |
| Syntax   |  | | --- | | for(initialize;condition;increment/decrement)  {  // code/statements;  } | |
| For(int i=1;i<=10;i++);  {  Cout<<i<<endl;  }  //undefined error  Int i;  For( i=1;i<=10;i++);  {  Cout<<i<<endl;  } |
| For(1;1;1)  {  Cout<<”bye”;  }  //infinite  For(; ; ;)  {  Cout<<”bye”;  } |
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| Wap to let enter any number any digit  A=154687  Wap to count number of digit; |
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Today we learn for loop practice

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| #include <iostream>  using namespace std;  int main()  {      // wap to reverse the digit      int n;      cout << "Enter number :";      cin >> n;      // int sum = 0, digit;      // while (n > 0)      // {      //     digit = n % 10;      //     sum = (sum \* 10) + digit;      //     n = n / 10;      // }      // cout << sum;      int sum = 0, digit;      while (n != 0)      {          digit = n % 10;          sum = sum + digit;          n = n / 10;      }      cout << sum;  } |
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| Floyd triangle  1  23  456  78910 |
| Inverted pyramid  \*\*\*\*\*\*\*  \*\*\*\*\*  \*\*\*  \* |

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| Pascal triangle  Trick |
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