NeuroCode Livestream

**TOPIC:**

* Important Practice Problems In Terms Of Exams.

Link of livestream:

<https://youtube.com/live/CvxCiOM0HiI?feature=share>

Link of playlist for all livestreams(in sequence):

<https://www.youtube.com/watch?v=lZ9Kqc451iM&list=PLixLvIo_nVYN5A44MN3cBz_9cWqP9vHzm>

EASY:

1. **Print Multiplication Table**: Develop a program to print the multiplication table of a given number.

* #include <iostream>
* using namespace std;
* int main()
* {
* int num;
* cout<<"Enter a number to print its table: ";
* cin>>num;
* for(int i= 1; i<= 12; i++)
* {
* cout<<num<<" times "<<i<<" is : "<<num\*i<<endl;
* }
* return 0;
* }

1. **Print Multiplication Table**: Develop a program to print the multiplication tables of number from one till 20.

* #include <iostream>
* using namespace std;
* int main()
* {
* //print tables of number 1 till num 20
* for(int number = 1 ; number <= 20; number++)
* {//this loop is for range
* cout<<"Table of: "<<number<<endl;
* for(int i=1; i<12; i++)
* {//this loop is for printing table
* cout<<number<<" times "<<i<<" is: "<<number\*i<<endl;
* }
* cout<<endl<<endl;
* }
* return 0;
* }

1. **Calculate Power of a Number**: Create a program to calculate the power of a number using a loop.
   1. #include <iostream>
   2. using namespace std;
   3. int main()
   4. {
   5. int num=5;
   6. int p=3;
   7. int ans = 1;
   8. for(int i=1; i<=p; i++)
   9. {
   10. ans = ans\*num;
   11. }
   12. cout<<num<<" to the power "<<p<<" is : "<<ans<<endl;
   13. return 0;
   14. }
2. **Generate ASCII Table**: Write a program to print the ASCII values from 32 to 127.
3. #include <iostream>
4. using namespace std;
5. int main()
6. {
7. for(int i=32; i<=127; i++){
8. cout<<"ASCII value of "<<i<<" is : "<< char(i)<<endl;
9. }
10. return 0;
11. }  
    MEDIUM/HARD
12. **Sum of All Numbers Divisible by 3 and 5 Under N**: Write a program to find the sum of all numbers less than N(given by user) that are divisible by 3 or 5.
    1. **#include <iostream>**
    2. **using namespace std;**
    3. **int main()**
    4. **{**
    5. **//4. Sum of All Numbers Divisible by 3 and 5**
    6. **//Under N: Write a program to find the sum of all**
    7. **//numbers less than N(given by user)**
    8. **//that are divisible by 3 or 5.**
    9. **int n; //range given by user**
    10. **cout<<"Enter range: ";**
    11. **cin>>n;**
    12. **int sum= 0;**
    13. **for(int i=1; i<=n; i++)**
    14. **{**
    15. **if(i%3==0 && i%5==0)**
    16. **{**
    17. **cout<<i<<" is divisible by both 3 and 5"<<endl;**
    18. **sum = sum+i;**
    19. **}**
    20. **}**
    21. **cout<<"sum of all the numbers divisible by 5 and 3 is: "<<sum<<endl;**
    22. **return 0;**
    23. **}**
13. **Fibonacci Series Up to Nth Term**: Write a program that generates the Fibonacci series up to the nth term, where n is provided by the user.
    1. **We start from 0 and 1, after that every next term is the sum of previous two terms.**0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89,144,233,377,610,987
    2. #include <iostream>
    3. using namespace std;
    4. int main()
    5. {
    6. //expected series: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89,144,233,377,610,987
    7. int num1 = 0, num2 = 1;
    8. int nextTerm = 0;
    9. int n = 2;//terms which user will enter
    10. for(int i=1;i<=n;i++)
    11. {
    12. if(i==1)
    13. {
    14. cout<<num1<<" ";
    15. }
    16. else if(i==2)
    17. {
    18. cout<<num2<<" ";
    19. }
    20. else
    21. {
    22. nextTerm = num1+num2;
    23. cout<<nextTerm<<" ";
    24. num1 = num2;
    25. num2 = nextTerm;
    26. }
    27. }
    28. return 0;
    29. }
14. **Factorial Calculator**: Implement a factorial calculator for a given number using loops.
    1. #include <iostream>
    2. using namespace std;
    3. int main()
    4. {
    5. int num=5;
    6. int fac = 1; //we'll store factorial here
    7. for(int i=1; i<=num; i++)
    8. {
    9. fac = fac\*i;
    10. }
    11. cout<<"factorial of "<<num<<" is : "<<fac<<endl;
    12. return 0;
    13. }
15. **Sum of Digits**: Write a program to calculate the sum of digits of a number entered by the user.
    1. #include <iostream>
    2. using namespace std;
    3. int main()
    4. {
    5. int num = 112350;
    6. int last\_digit;
    7. int sum=0;
    8. cout<<"Number is : "<<num<<endl;
    9. while(num>0)
    10. {
    11. last\_digit = num%10;//to get last digit
    12. num = num/10; //remove last digit
    13. sum+=last\_digit;
    14. }
    15. cout<<"sum of digits is: "<<sum<<endl;
    16. return 0;
    17. }
16. **Reverse a Number**: Develop a program to reverse the digits of an input number.
    1. #include <iostream>
    2. using namespace std;
    3. int main()
    4. {
    5. int num = 12345;
    6. int last\_digit;
    7. int reverseNumber = 0;
    8. cout<<"Number is : "<<num<<endl;
    9. while(num>0)
    10. {
    11. last\_digit = num%10;//to get last digit
    12. num = num/10; //remove last digit
    13. reverseNumber = reverseNumber\*10 + last\_digit;
    14. }
    15. cout<<"\nReversed number is : "<<reverseNumber<<endl;
    16. return 0;
    17. }
17. **Palindrome Checker for Numbers**: Develop a program to check if a given number is a palindrome.
    1. #include <iostream>
    2. using namespace std;
    3. int main()
    4. {
    5. int num = 12321;
    6. int num\_copy = num;
    7. int last\_digit;
    8. int reverseNumber = 0;
    9. while(num>0)
    10. {
    11. last\_digit = num%10;//to get last digit
    12. num = num/10; //remove last digit
    13. reverseNumber = reverseNumber\*10 + last\_digit;
    14. }
    15. if(num\_copy == reverseNumber)
    16. {
    17. cout<<num\_copy<<" is a Palindrome!"<<endl;
    18. }
    19. else
    20. {
    21. cout<<num\_copy<<" is NOT a Palindrome!"<<endl;
    22. }
    23. return 0;
    24. }
18. **Count Vowels in a String**: Write a program to count the number of vowels in a user-entered string.
    1. #include <iostream>
    2. using namespace std;
    3. int main()
    4. {
    5. //vowels a,e,i,o,u
    6. string s = "hello world";
    7. int siz = s.size();//function that tells size of string
    8. int i=0;
    9. int countt =0;
    10. while(i<siz)
    11. {
    12. if(s[i]=='a' || s[i]=='e' || s[i]=='i' || s[i]=='o' || s[i]=='u' || s[i]=='A' || s[i]=='E' || s[i]=='I' || s[i]=='O' || s[i]=='U')
    13. {
    14. countt++;
    15. }
    16. i++;
    17. }
    18. cout<<"total vowel count is : "<<countt<<endl;
    19. return 0;
    20. }
19. **Calculate Number of Years,weeks, and Days from Total Days**: Write a program that converts a total number of days into years, weeks, and days.
    1. #include <iostream>
    2. using namespace std;
    3. int main()
    4. {
    5. int totalDays,years,weeks,days;
    6. totalDays = 800;
    7. years = totalDays / 365;
    8. totalDays = totalDays%365;
    9. weeks = totalDays/7;
    10. days = totalDays%7;
    11. cout<<"years: "<<years<<endl;
    12. cout<<"weeks: "<<weeks<<endl;
    13. cout<<"days: "<<days<<endl;
    14. return 0;
    15. }