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***BATCH : B10***

***Software Development fundamentals-2 [EVEN 2022]***

***Tutorial Sheet -2 (Week 2)***

***Q1)*** *which of the following is true about new when compared with malloc.*

*1) new is an operator, malloc is a function*

*2) new calls constructor, malloc doesn't*

*3) new returns appropriate pointer, malloc returns void \* and pointer needs to typecast to  appropriate type.*

*a) 1 &2*

*b) 1 & 3*

*c) 2 & 3*

*d) All 1, 2 & 3*

***Solution :***

*d) all are true*

***Q2)*** *Write a C++ program to perform Insertion and deletion operation in array by creating array of  marks of students in a class using dynamic memory allocation (new and delete operator).*

***Solution :***

*#include<iostream>*

*using namespace std;*

*void insert\_arr(int target,int position,int arr[],int size){*

*for(int i=size-1;i>=position;i--){*

*arr[i+1]=arr[i];*

*}*

*arr[position]=target;*

*for(int i=0;i<=size;i++){*

*cout<<arr[i]<<" ";*

*}*

*}*

*void delete\_arr(int position,int arr[],int size){*

*for(int i=position;i<size-1;i++){*

*arr[i]=arr[i+1];*

*}*

*for(int i=0;i<size-1;i++){*

*cout<<arr[i]<<" ";*

*}*

*}*

*int main(){*

*int n;*

*cout<<"Enter number of students: ";*

*cin>>n;*

*cout<<"Enter marks of each students: ";*

*int \*arr=NULL;*

*arr = new int[n+1];*

*for(int i=0;i<n;i++){*

*cin>>\*(arr+i);*

*}*

*cout<<"Enter operation \n press 1 for inserting in array \n press 2 for deletion in array"<<endl;*

*int ans;*

*cin>>ans;*

*if(ans==1){*

*int x,y;*

*cout<<"Enter element to be inserted: ";*

*cin>>x;*

*cout<<"Enter position(index) at which Element is to be inserted: ";*

*cin>>y;*

*insert\_arr(x,y,arr,n);*

*}*

*else if(ans==2){*

*int x;*

*cout<<"Enter position(index) at which marks have to be deleted: ";*

*cin>>x;*

*delete\_arr(x,arr,n);*

*}*

*else{*

*cout<<"You have enter wrong option. ";*

*}*

*delete[] arr;*

*return 0;*

***Q3) What will be the output of the following program?***

*#include <iostream>*

*using namespace std;*

*int main()*

*{*

*int a = 32, \*ptr = &a;*

*char ch = 'A';*

*char &cho = ch;*

*cho += a;*

*\*ptr += ch;*

*cout << a << ", " << ch << endl;*

*return 0;*

*}*

***Solution :***

*129,a*

***Q4)*** *What will be the output of the following program?*

*#include <iostream>  using namespace std;  int main()*

*{*

*int num[5];*

*int\* p;*

*p = num;*

*\*p = 10;*

*p++;*

*\*p = 20;*

*p = &num[2];*

*\*p = 30;*

*p = num + 3;*

*\*p = 40;*

*p = num;*

*\*(p + 4) = 50;*

*for (int i = 0; i < 5; i++)  cout << num[i] << ", ";*

*return 0;*

*}*

***Solution :***

*10,20,30,40,50*