COADA

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struct student
{
	int varsta;
	char* nume;
	float medie;
	//   TEMA

};
struct nodCoada
{
	student inf;
	nodCoada* next;
};
void put(nodCoada** prim, nodCoada** ultim, student s)
{
	nodCoada* nou = (nodCoada*)malloc(sizeof(nodCoada));
	nou->inf.varsta = s.varsta;
	nou->inf.nume = (char*)malloc((strlen(s.nume) + 1) *
sizeof(char));
	strcpy(nou->inf.nume, s.nume);
	nou->inf.medie = s.medie;
	nou->next = NULL;
	if (*prim == NULL && *ultim == NULL)
	{
		*prim = nou;
		*ultim = nou;
	}
	else
	{
		(*ultim)->next = nou;
		*ultim = nou;
	}

}

int get(nodCoada** prim, nodCoada** ultim, student* s)
{
	if (*prim != NULL && *ultim != NULL)
	{
		(*s).varsta = (*prim)->inf.varsta;
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            (*s).nume = (char*)malloc((strlen((*prim)->inf.nume) + 1) *
sizeof(char));
            strcpy((*s).nume, (*prim)->inf.nume);
            (*s).medie = (*prim)->inf.medie;
            nodCoada* temp = *prim;
            *prim = (*prim)->next;
            free(temp->inf.nume);
            free(temp);
            return 0;
      }
      else
            if (*prim == NULL)
            {
                  *ultim = NULL;
                  return -1;
            }
}
void travesare(nodCoada* prim)
{
      nodCoada* temp = prim;
      while (temp)
      {
            printf("\n varsta=%d, nume=%s, medie=%5.2f",
                  temp->inf.varsta, temp->inf.nume, temp->inf.medie);
            temp = temp->next;
      }
}

void conversieCoadaVector(nodCoada** prim, nodCoada**ultim, student*
vect, int* nr)
{
      student s;
      while (get(prim, ultim, &s) == 0)
      {
            vect[*nr] = s;
            (*nr)++;
      }
}
void main()
{
      int n;
      printf("\n Numarul de studenti=");
      scanf("%d", &n);
      nodCoada* prim = NULL, *ultim=NULL;
      student s;
      char buffer[20];
```

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for (int i = 0; i < n; i++)
{
	printf("\n Varsta = ");
	scanf("%d", &s.varsta);
	printf("\n Nume = ");
	scanf(" %[^\n]s", buffer); // citire cu spatii
	s.nume = (char*)malloc((strlen(buffer) + 1) * sizeof(char));
	strcpy(s.nume, buffer);
	printf("\n Medie = ");
	scanf("%f", &s.medie);

	put(&prim, &ultim, s);
}
travesare(prim);
/*student s1;
while (get(&prim, &ultim, &s1) == 0);
{printf("\n varsta=%d, nume=%s, medie=%5.2f");
	free(s1.nume);
}*/
student s1;
get(&prim, &ultim, &s1);
free(s1.nume);
printf("\n -----------------\n");
student* vect = (student*)malloc(n * sizeof(student));
int nr = 0;
conversieCoadaVector(&prim, &ultim, vect, &nr);
for (int i = 0; i < nr;i++)
{
	printf("\n varsta=%d, nume=%s, medie=%5.2f",
		vect[i].varsta, vect[i].nume, vect[i].medie);

}
for (int i = 0; i < nr; i++)
{
	free(vect[i].nume);
}
free(vect);

}
```