Project BD

BD-P9: Asamblare PC

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Descriere:

Proiectul "Asamblare PC" urmărește implementarea unei aplicații Oracle APEX pentru gestionarea comenzilor de PC-uri personalizate. Sistemul permite înregistrarea clienților, a comenzilor și a componentelor utilizate în fiecare configurație. Baza de date este structurată pe patru tabele interconectate, respectând constrângerile de integritate. Aplicația oferă funcționalități pentru adăugare, vizualizare și gestionare a datelor, facilitând administrarea eficientă a procesului de asamblare.

Scriptul SQL DDL pentru implementarea tabelelor:

```
create table pc_client(
    cnp char(13) not null,
    nume varchar2(40) not null,
    email varchar2(40) not null,
    constraint pc_client_pk primary key(cnp)
);
create table pc_componenta(
    cod_c varchar2(10) not null,
    denumire varchar2(80) not null,
    producator varchar2(40) not null,
    pret number(6) not null,
    constraint pc_componenta_pk primary key(cod_c)
);
create table pc_comanda(
    cod pc varchar2(10) not null,
    cnp_client char(13) not null,
    data_comanda date not null,
    constraint pc_comanda_pk primary key(cod_pc),
    constraint pc_client_fk foreign key(cnp_client) references pc_client(cnp) on delete cascade
create table pc_lista_comanda(
    cod_pc varchar2(10) not null,
    cod_c varchar2(10) not null,
    cantitate number(4) not null,
    -- foreign keys
    constraint pc_componenta_fk foreign key(cod_c) references pc_componenta(cod_c) on delete cascade,
    constraint pc_comanda_fk foreign key(cod_pc) references pc_comanda(cod_pc) on delete cascade,
    -- composite primary key
    constraint pc_lista_comanda_pk primary key(cod_pc, cod_c)
```

Scriptul SQL DML pentru adăugarea datelor:

COMPONENTE

```
insert into pc_componenta values('C669','Intel Raptor Lake Refresh, Core i5 14400F 2.5GHz','Intel',700);
insert into pc_componenta values('C506','AMD Ryzen 9 9900X 4.4GHz','AMD',2099);
insert into pc_componenta values('C112','Intel Arrow Lake, Core Ultra 9 285K 3.7GHz','Intel',3149);
insert into pc_componenta values('C971','AMD Ryzen Threadripper 7980X 3.2Ghz','AMD',27090);
insert into pc_componenta values('C807','Palit GeForce RTX 5090 GemeRock 32GB GDDR7 512-bit DLSS 4.0','NVIDIA',14299);
insert into pc_componenta values('C807','Palit GeForce RTX 5090 GemeRock 32GB GDDR6 128-bit','AMD',1099);
insert into pc_componenta values('C806','ASRock Radeon RX 6000 Challenger D 8GB GDDR6 128-bit','AMD',1099);
insert into pc_componenta values('C685','Sapphire Nitro+ Radeon RX 7900 XTX Vapor-X 24GB GDDR6 384-bit','AMD',5259);
insert into pc_componenta values('C685','Sparkle Intel ARC A770 ROC Luna White 16GB GDDR6 256-bit','Intel',1924);
insert into pc_componenta values('C921','SSD Lexar NM710 1TB PCI Express 4.0 x4 M.2 2280','Lexar',269);
insert into pc_componenta values('C853','Memorie Kingston FURY Beast 32GB DDR5 6000MHz CL30 Dual Channel Kit','Kingston',539);
insert into pc_componenta values('C498','Memorie G.Skill Zeta R5 RDIMM 128GB DDR5 6400MHz CL32 Quad Channel Kit','G.Skill',4399);
insert into pc_componenta values('C434','Sursa ASUS ROG STRIX Aura Edition, 80+ Gold, 750W','ASUS',708);
insert into pc_componenta values('C834','Sursa Corsair RM1200e 80+ Gold 1200W','Corsair',1049);
insert into pc_componenta values('C167','Placa de baza ASUS ROG STRIX X670E-F GAMING WIFI','ASUS',2469);
```

CLIENTI

```
insert into pc_client values('5061202411122','Paul Gondola','paul.gorgonzola@protonmail.com');
insert into pc_client values('1980107322077','Dan Ghimpul','dan.ghimpul98@mail.ru');
insert into pc_client values('6011021294866','Andreea Prahoveana','andreeapraaa@yahoo.com');
insert into pc_client values('1801102359886','Calin Popa','calin.popa@student.upt.ro');
insert into pc_client values('6040229355655','Alexandra Haidet','alexa.haidet2004@yandex.com');
```

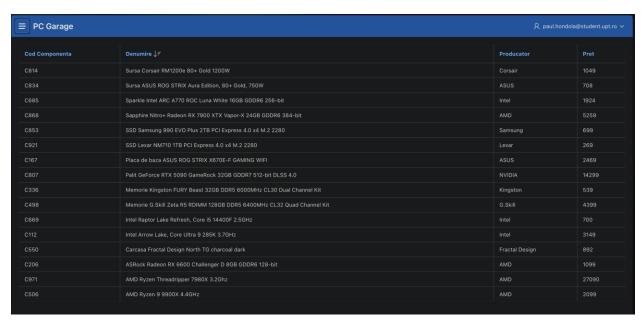
COMENZI

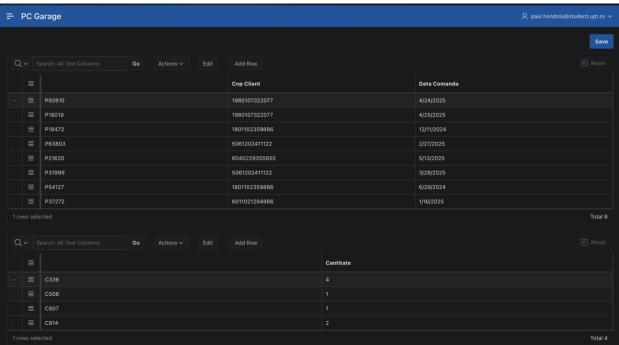
```
insert into pc_comanda values('P92810','1980107322077','04/24/2025');
insert into pc_comanda values('P18019','1980107322077','04/25/2025');
insert into pc_comanda values('P18472','1801102359886','12/11/2024');
insert into pc_comanda values('P63803','5061202411122','02/27/2025');
insert into pc_comanda values('P21620','6040229355655','05/13/2025');
insert into pc_comanda values('P31999','5061202411122','03/28/2025');
insert into pc_comanda values('P54127','1801102359886','06/29/2024');
insert into pc_comanda values('P37272','6011021294866','01/16/2025');
```

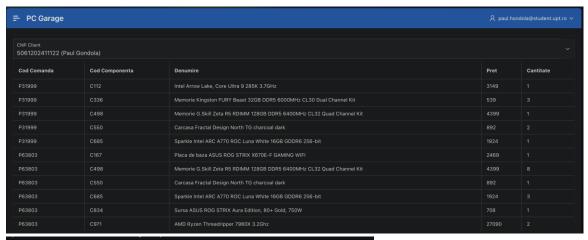
LISTA COMENZI

```
insert into pc_lista_comanda values('P92810','C506',1);
insert into pc lista comanda values('P92810','C807',1);
insert into pc_lista_comanda values('P92810','C814',2);
insert into pc_lista_comanda values('P92810','C336',4);
insert into pc_lista_comanda values('P63803','C971',2);
insert into pc_lista_comanda values('P63803','C167',1);
insert into pc_lista_comanda values('P63803','C685',3);
insert into pc_lista_comanda values('P63803','C498',8);
insert into pc_lista_comanda values('P63803','C550',1);
insert into pc_lista_comanda values('P63803','C834',1);
insert into pc_lista_comanda values('P18472','C167',3);
insert into pc_lista_comanda values('P18472','C868',1);
insert into pc_lista_comanda values('P18019','C853',2);
insert into pc_lista_comanda values('P18019','C669',3);
insert into pc_lista_comanda values('P18019','C506',1);
insert into pc_lista_comanda values('P18019','C921',6);
insert into pc_lista_comanda values('P21620','C112',2);
insert into pc lista comanda values('P21620','C206',1);
insert into pc_lista_comanda values('P21620','C167',3);
insert into pc_lista_comanda values('P21620','C807',2);
insert into pc_lista_comanda values('P21620','C921',4);
insert into pc_lista_comanda values('P21620','C971',1);
insert into pc_lista_comanda values('P31999','C685',1);
insert into pc lista comanda values('P31999','C550',2);
insert into pc_lista_comanda values('P31999','C112',1);
insert into pc lista comanda values('P31999','C336',3);
insert into pc_lista_comanda values('P31999','C498',1);
insert into pc_lista_comanda values('P54127','C669',1);
insert into pc_lista_comanda values('P54127','C814',7);
insert into pc_lista_comanda values('P37272','C550',2);
insert into pc_lista_comanda values('P37272','C807',1);
insert into pc lista_comanda values('P37272','C834',3);
```

Partea A:





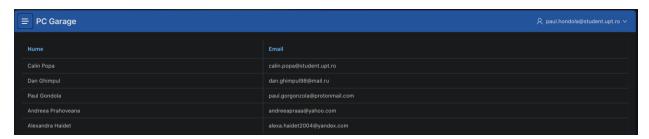


```
c.cod_c as Cod_Componenta,
    c.denumire as Denumire,
    c.producator as Producator,
    c.pret as Pret,
    sum(lc.cantitate) as Total_Comenzi
from pc_componenta c
join pc_lista_comanda lc on lc.cod_c = c.cod_c
group by c.cod_c, c.denumire, c.producator, c.pret
```

PC Garage R paul.hondola@student.upt.ro				
Cod Componenta ↑≞	Denumire	Producator	Pret	Total Comenzi
C112	Intel Arrow Lake, Core Ultra 9 285K 3.7GHz	Intel		
C167	Placa de baza ASUS ROG STRIX X670E-F GAMING WIFI		2469	
C206	ASRock Radeon RX 6600 Challenger D 8GB GDDR6 128-bit	AMD	1099	
C336	Memorie Kingston FURY Beast 32GB DDR5 6000MHz CL30 Dual Channel Kit	Kingston		
C498	Memorie G.Skill Zeta R5 RDIMM 128GB DDR5 6400MHz CL32 Quad Channel Kit			
C506	AMD Ryzen 9 9900X 4.4GHz	AMD	2099	
C550	Carcasa Fractal Design North TG charcoal dark	Fractal Design		
C669	Intel Raptor Lake Refresh, Core i5 14400F 2.5GHz			
C685	Sparkle Intel ARC A770 ROC Luna White 16GB GDDR6 256-bit			
C807	Palit GeForce RTX 5090 GameRock 32GB GDDR7 512-bit DLSS 4.0	NVIDIA	14299	
C814	Sursa Corsair RM1200e 80+ Gold 1200W		1049	
C834	Sursa ASUS ROG STRIX Aura Edition, 80+ Gold, 750W			
C853	SSD Samsung 990 EVO Plus 2TB PCI Express 4.0 x4 M.2 2280	Samsung	699	
C868	Sapphire Nitro+ Radeon RX 7900 XTX Vapor-X 24GB GDDR6 384-bit	AMD		
C921	SSD Lexar NM710 1TB PCI Express 4.0 x4 M.2 2280	Lexar		
C971	AMD Ryzen Threadripper 7980X 3.2Ghz	AMD	27090	

```
select
    com.cod_pc as Cod_Comanda,
    comp.cod_c as Cod_Componenta,
    comp.denumire as Denumire,
    comp.pret as Pret,
    lc.cantitate as Cantitate
from pc_comanda com
join pc_lista_comanda lc on lc.cod_pc = com.cod_pc
join pc_componenta comp on comp.cod_c = lc.cod_c
where com.cnp_client = '00000000000000'
order by com.cod_pc, comp.cod_c;
```

Partea B:





```
select distinct lc.cod_pc || ' (' || pccl.nume || ') ' , lc.cod_pc as "Codul comenzii" from pc_lista_comanda lc
    join pc_comanda pcc on lc.cod_pc = pcc.cod_pc
    join pc_client pccl on pcc.cnp_client = pccl.cnp
```

```
DECLARE
 l_exists NUMBER;
 SELECT COUNT(*)
 INTO l_exists
  FROM pc_lista_comanda
 WHERE cod_pc = :P7_COD_PC
   AND cod_c = :P7_COD_C;
  IF 1 exists = 0 THEN
   INSERT INTO pc_lista_comanda (cod_pc, cod_c, cantitate)
   VALUES (:P7_COD_PC, :P7_COD_C, :P7_CANTITATE);
   apex_application.g_print_success_message := 'Produsul a fost adaugat comenzii.';
   UPDATE pc_lista_comanda
   SET cantitate = cantitate + :P7_CANTITATE
   WHERE cod_pc = :P7_COD_PC
     AND cod_c = :P7_COD_C;
   apex_application.g_print_success_message := 'Cantitatea a fost actualizată pentru componenta deja existentă.';
  END IF;
  :P7_COD_PC := NULL;
  :P7_COD_C := NULL;
  :P7_CANTITATE := NULL;
END;
```



select pcco.cod_c, pcco.denumire, pcco.producator, pcco.pret, pclc.cantitate from pc_componenta pcco
join pc_lista_comanda pclc on pclc.cod_c = pcco.cod_c
where pclc.cod_pc = :P_VMAX

≕ PC Garage			
Спр	Nume	Numar Comenzi	Pret Total
6040229355655	Alexandra Haidet		71568
6011021294866	Andreea Prahoveana		18207
1801102359886	Calin Popa		20709
1980107322077	Dan Ghimpul		2736863
5061202411122	Paul Gondola		112086

```
cl.cnp,
cl.nume,
cOUNT(DISTINCT c.cod_pc) AS numar_comenzi,
SUM(lc.cantitate * comp.pret) AS pret_total

FROM
pc_client cl

JOIN
pc_comanda c ON cl.cnp = c.cnp_client

JOIN
pc_lista_comanda lc ON c.cod_pc = lc.cod_pc

JOIN
pc_componenta comp ON lc.cod_c = comp.cod_c

GROUP BY
cl.cnp, cl.nume

ORDER BY cl.nume
```